571

Virginia Medical Monthly

Official Organ of the Medical Society of Virginia

Vol. 56, No. 9.
WHOLE No. 930

RICHMOND, VA., DECEMBER, 1929

20 CENTS A COPY
$2.00 A YEAR

RELATION OF THE MEDICAL PROFESSION TO THE PUBLIC.*

By HUGH S. CUMMING, M. D., Washington, D. C.
Surgeon General, U. S. Public Health Service.

PRESIDENT ALDERMAN: FELLOW ALUMNI: FELLOW MEMBERS OF THE MEDICAL SOCIETY OF VIRGINIA: LADIES AND GENTLEMEN:

It is doubtful if any recent alumnus ever returned to his Alma Mater without feeling a lump in his throat and a tugging at his heart-strings. How much deeper then are the emotions of one who thirty-six years after graduation finds himself back in this hallowed University in all of her physical beauty, as he recalls her moral and intellectual worth, her struggles and accomplishments through years of financial poverty, her wealth of tradition and history, her children who have for a century so well done their part in every sphere in which their State, their country, the world needed them!

She has never been the jealous mistress constantly demanding evidences of affection but rather the loving mother, content, too content at times, in the success of her offspring, requiring nothing more of them than that they be worthy sons, serene in her consciousness that they had imbibed and assimilated knowledge and principles that would carry them to honorable success.

Life was simple in those years of the early nineties both in the outside world and here. Virginia had not yet recovered from the holocaust of war and reconstruction.

A large proportion of students in the professional schools were struggling through upon borrowed or hardly earned money and the wealthy man was rather marked, if not handicapped. Social and financial position, even accident of birth, counted but little. In no other place has there ever been a truer rule of aristocracy in the original and best meaning of the word. Most of us through necessity were acutely aware that medical "art was long and time was fleeting," so the average medical man led the simple life of a hard student.

The University herself was in no whit better financial condition than her children. Philanthropy had not stretched her welcome hand hitherward and the impoverished State was dissipating her too small resources among many institutions instead of concentrating energy upon her crowning intellectual glory.

In view of her limited financial resources it seems miraculous that her engineering, chemical and medical schools, with so little physical equipment, could have turned out such numbers of professionally well equipped graduates until one remembers those intellectual giants on the faculty of those years. No normal man could have lived for several years even in casual contact with such men as Noah K. Davis, John B. Minor, Francis Smith, John Mallet, Billy Thornton and others without being intellectually and morally lifted onto a higher plane.

But what of the Medical School?

Few medical schools of the time had a more splendid galaxy of teachers than Towles, Mallet, Barringer and Tuttle. The comparative thoroughness of their teaching was demonstrated over and again by the standing of her graduates both at home and abroad in competitive examinations and in practice. Yet how restricted then was the intellectual diet compared with the elaborate menu set before the medical student of today! Anatomy was thoroughly taught by lectures, demonstrations and dissections. No laboratory credits were required in medical chemistry and physiology, and, indeed, the physical equipment, even for those days, was inadequate. There was little or no clinical material for use in the teaching of internal medicine and operative surgery; bacteriology, pathology and histology were taught by lectures and a few demonstrations; gynecology by lectures, and obstetrics by lectures and demonstrations on a manikin; these and a short course in hygiene comprised the

*Address at the dedication of the new Medical Buildings, University of Virginia, and opening exercises of the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22, 1929.

XUM

two years of study required for graduation after 1892. Previous to that year, graduation after one year in residence was permitted.

Although post-graduate hospital work was encouraged, a large number of graduates who subsequently became leaders in their profession were compelled to go immediately into practice.

But before contrasting the men and school of that time with the finished graduates and the richly endowed institution of today with its splendid laboratory which we have just dedicated and its hospitals and research facilities, the younger generation might well reflect upon the limited field of medical science of that period. I am confident that in the earlier days the medical student derived a much greater proportion of existing knowledge than it is now possible for him to acquire in four or five years of study.

The last century was a period of unparalled progress in the world's history. Marked advances were made in government, in industry, in transportation, but above all in the field of science and its application for the benefit of mankind. Great and revolutionary as were the effects of steam transportation, the telegraph, telephone, and electric light upon our civilization, equally great was the effect upon humanity of the increased knowledge of the causes of disease, its methods of spread, prevention, and cure. Especially was this true of the last two decades of the century. While there had been an advance in empirical therapeutics and in the technique of surgery, until then little more was known in regard to the etiology and epidemiology of disease than had been known in all the years preceding.

Suddenly, like the turning of a switch, Pasteur dispelled the ignorance of centuries by his demonstration that specific diseases are produced by specific organisms, and Koch, by the development of solid culture media and aniline dyes, made possible the identification of the pathogenic organisms of such diseases as tuberculosis, tetanus, cholera, diphtheria, and glanders.

Immunization against communicable diseases has been the subject of research since 1880 but the last decade of that century stands out as the period in which serum diagnosis and treatment had their origin. The study of the effect of the toxins contained in culture media in which tetanus and diphtheria bacilli were grown led to the study of immunity and the discovery of the antitoxic action of the sera of immunized animals. The facts thus established were put to practical use by the introduction of tetanus antitoxin in 1890 and of diphtheria antitoxin in 1894. In that year, also, the laws of passive immunity were shown to hold in immunizing against living organisms, and the practical application of protective inoculation against cholera, plague and, later and more important, typhoid fever followed. Two years later, still another aid, the serum diagnosis of disease, was developed.

An epoch making discovery in the realm of physics which added to the brilliancy of the decade was that of the X-rays by Roentgen in 1895, together with their use in diagnosis and treatment. This later led to the study and use of the ultra violet rays.

But brilliant as were those achievements, other important medical discoveries were made in the same period which profoundly affected the happiness of the human race inhabiting the warmer regions of the world.

Theobald Smith's pioneer discovery of the insect transmission of cattle fever was followed by Manson's demonstration of the transmission of filariasis by mosquitoes, by Ross' brilliant incrimination of the anopheles in malaria, and by Reed's confirmation of Finlay's theory of yellow fever transmission by the stegomyia mosquito. No less important was the change in our knowledge and conception of neuropathology and the relationship between mental and physical conditions.

Scarcely less significant were the advances during the following twenty-five years, which initiated the use of dark field illumination, the arsenical derivatives in the treatment of the spirochaetal diseases; the knowledge of lhe cause and prevention of goitre, of the function of the internal secretions and their uses, the microscopic examination of the eyegrounds, the use of toxin-antitoxin, the role of the disease carrier, and the matter of fact acceptance of the radio, aviation, automobiles, and the marvels of synthetic chemistry.

At the beginning of the last century, transportation and communications were difficult and expensive, the use of steam and electric power unknown. Each country, State and

community depended largely upon its own resources. The necessities in food, clothing and implements were provided locally and the household in general was more or less self-supporting. As President Hoover so aptly described the situation. the farmer raised 80 per cent of his necessaries and depended upon the outside for only 20 per cent.

There are among us those who remember the local shoemaker, the blacksmith, the carriage builder, the carpenter who builded with locally produced material, and the table loaded with home grown food products. The life of the average man in this country was simple and individualistic, each community more or less self-contained. The conception of the role of government was that of providing for the common defense and protecting life and property against violence and oppression, beyond which the individual was expected to work out his own destiny. Cooperation beyond this limitation was restricted to emergencies.

The development of machinery and transportation facilities and means of communication have revolutionarily changed these conditions and necessitated group action and interdependence, governmental and otherwise. We no longer depend upon individual ownership or initiative for transportation, but upon cooperative action of necessity regulated by government. We depend no longer upon our own locality for food and clothing. The whole world contributes to the home and table of the average man of this generation, and cooperation has been necessary to bring about this result.

No less marked has been the result of the application of science to the practice of medicine and the change in relationship which existed in the past between the public and the physician. The armamentarium of the physician of only a generation or so ago consisted of a few instruments and somewhat limited professional knowledge, supplemented often, however, by a knowledge of the hereditary and environmental factors and the mental and physical history of the patient which, I am inclined to think, not infrequently made up for his deficiency in technical knowledge.

The application of the increase of knowledge in all of the fields of science to the practice of medicine and sanitation has of necessity radically changed this condition.

As Sir Clifford Albutt has expressed it: "It is obvious that the results of such advances prescribe for the clinical physician methods which cannot be pursued without expert assistance; a physician engaged in busy practice cannot himself undertake even the verifications required in the conduct of individual cases. Skill in modern laboratory work is as far out of reach of the untaught as performance on a musical instrument. In spite, therefore, of the tradition which has persisted from Aristotle to Herbert Spencer it is formed upon us * * * that in a pursuit so many sided as medicine, whether in its scientific or practical aspect, we have to submit more and more to that division of labor which has been a condition of advance in all other walks of life." It is true that knowledge of diseased conditions has been brought into the light of knowledge by "specialists and by them distributed to the profession; and that in no other way could this end have been attained."

Thus, the increase in medical knowledge has necessitated expenditures for office and laboratory personnel and equipment far beyond the capacity of all save few physicians, nor can one individual have either the ability or time necessary for their use. At the same time provision must be made for the integration of knowledge as well as for the winning of it by several adits. Physicians educated in our schools and hospitals accustomed to rely upon the trained nurse, the bacteriologist, immunologist, pathologist, bichemist, the physiotherapist, and the cooperation of clinicians skilled in the various specialties, feel unwilling to undertake practice in rural districts and other regions where such aids are inaccessible.

Nor in the field of public health and sanitation is the physician alone competent to supply the requirements of today. Scarcely less necessary than the medical officer of health are the sanitary engineer, the vital statistician, the public health nurse, and the laboratorian, while the physician must know not only diagnosis and therapy but epidemiology.

In the larger communities the problem is being solved, so far as the profession is concerned, by adequately equipped hospitals, clinics and laboratories, by organized group practice, and by reference relations.

Despite the pessimism of those who are perhaps thrown in too close contact with public health and become impatient, the public has been educated with regard to the importance

XUM

of medical science and to an appreciation of what may be accomplished by the general application of medical knowledge not only in curing disease and alleviating pain, but in preventing disease with consequent increased individual and community efficiency. It is a matter of very deep significance that the interest of the public in matters of health is not limited to the medical profession or to well-meaning altruists, but includes great leaders in industry. It is significant, too, that probably the most forward movements to supply scientific medical service to the public have been and are being led not only by physicians, but by laymen and men of importance in national affairs.

Thus, within the memory of many of us here today there has come about a greater revolution in the world of science and a closer inter-relationship between individuals and states than in all the ages before. We have passed from individualism to mutual dependence in the world at large. It will be impossible for the medical profession, though it may lag behind, not to be affected by this change. Changes and discoveries have occurred so rapidly that many of them now appear as isolated and disconnected. It remains for that great Master, Time, to cut out the irrelevant exposures and present the finished picture as a continuous film in logical sequence for study by future generations. We have eaten of the fruit of the tree of knowledge. It remains for us and for future generations to show whether wisdom has lingered or knowledge has been wisely assimilated for the healing of nations. Increased knowledge has driven us from the Garden of Individualism and self-privilege to greater toil and labor for our fellow man. Let not the medical profession be led into false paths or caused vainly to attempt to stop the march of progress by walking delegates and self-constituted defenders with their bogus and alarming cries of state medicine.

State medicine in the sense of community effort began centuries ago when the religious or secular arms of government established hospitals and quarantines, and at a later date hospitals for the mentally sick; and it is probably true that there was in the past no further extension of this service, which great statesmen have declared to be the highest duty of government, in part because of the lack of appreciation of its importance and in part because of ignorance of methods to be adopted. Nor was there the same necessity for community effort when people were more or less isolated, as in the present stage of community life and effort.

The government, too, has shown its interest in the public health by throwing out safeguards and prescribing higher qualifications and giving special privileges to those to whom it intrusts the medical care of the people, in such manner that these privileges become responsibilities. The great question before us now, as I view the situation, is not whether the government, be it local, state or Federal, shall concern itself with the health of the people, but what shall be the relationship between the members of our profession who are directly employed by the people, through their representatives, and those who are engaged in what is called mistakenly private medicine. I say *mistakenly*, because even in the most confidential relationship obtaining between the physician and patient, the physician is not acting solely as a private citizen but also as a licensed and privileged representative of the people as a whole. The death, invalidism or the continued good health and efficiency of the mother or breadwinner of a family, the question as to whether a child enters upon life a useless encumbrance or a useful addition to the state, are matters of concern not alone to the physician and the patient but to the community at large as well.

This is not the time or place for detailed statements as to the causes of the fact that the present condition of affairs is unsatisfactory both to the medical profession and the people. It is a matter of common knowledge on the one hand that a large proportion of the people are not getting the highest type of medical service; nor is this situation due to any lack of that generous service and charity which has been the glory of the medical profession from the beginning; neither does the average doctor have greater remuneration than just compensation for his long years of training. There is nothing peculiar in this situation—individual effort has given place to coordinated community effort in every other line of endeavor. For instance, there are few of us who would abolish the public school or the government construction of roads or the regulation of transportation, or a wise regulation of foods and drugs, or government assistance to groups

or areas in time of emergency. What then shall be the relation between the profession and the public whom they serve? There is, I fancy, no question in the minds of any one that the prevention of the introduction and spread of the communicable diseases, the control of water supplies, and other matters of sanitation of the environment, requires government control, nor is there, I imagine, opposition to public control of the purity of biologic products and drugs, or that research can be done by government. There are those who would write the prescription, "Let the state take care of preventive medicine and the private practitioner of curative medicine." Who of us is wise enough, in the light of present knowledge, to draw the line or even establish a twilight zone between the two? The problem which must be solved is, shall the present conditions under which those who are unable to pay for adequate medical and hospital facilities and are dependent upon the charity of the private physician, and those who live in rural communities where no such service is available, continue without them, or shall there be a readjustment to conform to present ideals and conditions. That there will be a change I feel confident, indeed the change is rapidly being accomplished.

It is, perhaps, inappropriate for me to express an opinion regarding the remedies for present conditions, but there are certain fundamental principles which may well be considered in order to reach the goal of our profession—which should be not only the lessening of suffering and death but the increase of happiness brought about by improved mental and physical health.

The only sure foundation stone for the edifice of public health is the close and sympathetic association of enlightened, intelligent medical men in private practice with trained local health organizations, coordinated and assisted by a thoroughly organized state health department provided with sufficient personnel and equipment to exercise those functions which cannot be carried on efficiently by local organizations.

The functions of the Federal Government should properly be to carry on research through its Public Health organization in solving health problems of other than local interest, and to assist the states in times of emergency or during the period of development of their state and local organizations. The problem may not be solved either by official or voluntary effort directed exclusively towards one group, condition or disease, but rather by well developed and coordinated effort against all conditions which militate against good health. Nor is the problem to be solved by any written formula applicable to the country as a whole, but largely by the interested groups in each community meeting conditions peculiar to itself as they may arise, in collaboration with state and national groups.

It seems to me that many of the difficulties which are occurring between so-called organized medicine and official and unofficial bodies interested in the health of the public, are due to a lack of control and mutual understanding of the motives and objects of the sound leaders on both sides. All of us who are worthy to be members of our splendid profession with its glorious history of self-sacrifice are working for the same object. There is too much suspicion, too little real effort to cooperate. Keyes has written "Events march on to their conclusions undetermined by the gyrations of statesmen." A change in the historic relations between the medical profession and the public is taking place; let us who are best fitted by education, training and tradition guide and direct the change along wise paths, and not by withholding our guidance leave the future to more radical and less wise direction.

One of the most important duties which confronts the organized medical profession of this country today is to educate and stimulate the people to a realization of the importance of adequate and suitably trained local health organizations.

Virginia has been unusually fortunate in this respect.

Few men in the light of experience now believe in the abolition of a trained armed service and placing entire dependence for the defense of the country upon an armed citizenry rising in time of stress. No less futile, it seems to me, is the proposal advanced that the public health of the country should be left to the medical societies alone. This is the day of specialties, and as the private practitioner must depend largely upon the aid of technicians, even in greater degree must the medical officer of health depend upon the sanitary engineer, the trained epidemiologist, the vital statisti-

XUM

cian, the public health nurse, and other arms of a trained regular health army.

From the beginning of the settlement of this continent, Virginia has produced great leaders in times of stress and change, who have found the solution of the problems of the hour, and I am confident that in this day of changing relations between the medical profession and the public she will continue to produce with the aid of this state medical society, men able and equipped to solve her problems of the future.

A STATE MENTAL HYGIENE PROGRAM.*

By WILLIAM F. DREWRY, M. D., Richmond, Va.
Director of Bureau of Mental Hygiene, State Department of Public Welfare.

Mens sana in corpore sano.

Every physician is an observer and a student of human beings, the well and the ill and their behavior. I shall, therefore, attempt to present in this paper an outline of the background, the development, and the value to the individual and the state of this latest of the country's great public health organizations—mental hygiene.

A program for mental hygiene should, I think, start with a scientific setting, consequently I make my initial public effort, as the director of the Division of Mental Hygiene in the State Department of Public Welfare, before this Society.

The term mental hygiene, which in recent years has come so much into use, is not a new one, either as an idea or a name. We find, for instance, in literature, "Mental Hygiene, or an Examination of the Intellect, etc.", by William Sweetser, a book published in 1843, and Dr. Isaac Ray published a book in 1863, entitled "Mental Hygiene," but within the past two or three decades it has become to be of greater significance, and has a new and broader interpretation.

"By Mental Hygiene we mean," to quote a distinguished authority, Dr. Frankwood E. Williams, "mental health or the rules by which mental health may be maintained." It is the science and practice of the preservation of mental health. Sound mental health is essential to social and economic adjustment and to personal contentment and usefulness. Let a man's mind cease to function to a noticeable degree, he at once loses his social and financial influence and prestige. To quote Herbert Spencer:

> "It is the mind that maketh good or ill,
> That maketh wretch or happy, rich or poor."

Indeed, the mind is the most complex thing in the world. Its derangement may at almost any time bring misery and chaos into the life of any individual. Hardly a family escapes so long as a generation without having one or more of its members become a victim of mental disease.

The field of mental hygiene is especially prevention. While it primarily aims at prevention, it also has as an objective the maintenance of sound mental health, promotion of greater happiness, and development of more efficiency. The purpose of a mental hygiene program in a state is not only to effect in time an appreciable reduction in mental disorders and defect of every grade, but, also, by the application of mental hygiene principles and precepts, to reduce delinquency, crime, dependency, alcoholism, drug addiction, nervous invalidism and other undesirable conditions.

The present day understanding of the insanities and the different grades of mental disorders is no longer limited to what is or was observed within the confines of the "cells" of a "lunatic asylum," according to the old nomenclature, for various other sorts of abnormal behavior are embraced in the term, such as constitutional psychopathic states, psychoneuroses, border-line mental conditions, psychasthenia, alcoholic and drug addiction and others.

While through the concerted action of physicians and physical hygienists great progress has been made in the prevention, even the eradication of many physical diseases, especially those of an infectious nature, the so-called germ diseases, no such progress has yet been made in respect to mental disorders and defects. This is probably due, in large measure, to the fact that efforts at prevention were expended on the adult largely to the exclusion of the child, but it has now been recognized that "childhood is the golden period of mental hygiene."

In the prevention of mental disease and defect much has been done by the general practitioner and public health official, for the reason that various physical conditions and preventable diseases sometimes constitute etiologi-

*Read before the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, Va., October 22-24, 1929.

cal factors in mental disease. In any state mental hygiene program, therefore, the active interest and participation of the departments of health, state and local, are of vital importance. The past two or three decades especially have witnessed such growth in psychiatry that it has taken its place as an important division of the practice of medicine and is now actively engaged in preventive medicine in the form of mental hygiene.

The aim of mental hygiene is to ascertain by a complete study of each patient the causes of his mental and emotional disturbances and his failures, and so the problems of human behavior come within the scope of its efforts. In doing this there is need to know as much as possible about the patient's heredity, environment, physical disease, constitutional weakness, emotional upsets, personality traits and disorder of mental processes, that is, the entire patient—physically, mentally and emotionally. It strives also to promote the best methods of care and the most successful treatment of the patient at home and elsewhere. Dr. Linsly R. Williams, Director of the New York Academy of Medicine, speaks this way in reference to the whole patient: "Modern medicine is coming to emphasize the need for the physician to bear constantly in mind that the whole patient is sick; not merely the heart or the liver. In many instances, particularly in such diseases as tuberculosis, the emotional factors of the case are quite as important as the physical. Often the ability to change the mental attitude of the patient to himself and the world is more necessary than a knowledge of how to treat him for his ailment." In psychiatry not only the whole patient is studied, but his entire life history, and his family's.

A general campaign of prevention of mental and nervous diseases should be stimulated by the following statistical information, published or republished in some standard medical and mental-hygiene journals. There are in the United States 6,852 hospitals that provide 892,934 beds for all classes of patients. Of this number of beds 394,268, or more than 44 per cent., are for mental and nervous and feeble-minded patients. The average number of patients in institutions was 702,738, of which 369,035, or more than 52 per cent, were mental and nervous patients. The increase in the number in institutions for mental and nervous cases was 18 per cent in excess of that for the general hospitals. One of 171 persons in the United States was a patient in a hospital of some kind. One of 325 persons was a patient in a hospital for mental and nervous diseases, which is a larger proportion than for any other group of institutions.

It is estimated that there are 450,000 persons in the United States who are complete social liabilities because of mental disease; 600,000 who have to be handled through courts, prisons and reformatories every year because of major crime; and more than a million who, because of their low intellectual endowments, are prevented from being social assets. These groups are costing society millions of dollars every day, to say nothing of the waste of human beings and their potentialities for constructive contribution and of the unhappiness wrought upon others (Dr. George S. Stevenson, National Committee for Mental Hygiene.)

In the face of the foregoing information relative to insanity and crime, is there any wonder that some authority has said, "The economic and human and medical problems incident to a large and increasing number of persons suffering from mental disorders are stupendous and tax the ingenuity of legislatures, administrators and scientists." Yet, with all this array of statistics, it is doubtful that there has been any real great increase in insanity when we take into consideration the increase in the general population and the fact that the hospitals for the mentally sick are not shunned as was formerly the case, and that the diagnosis of mental disorder is not so restricted as it formerly was. Another factor to be considered is the greater longevity of patients in the institutions due to improved personal care and generally better hospitalization. A regrettable thing, however, is that there has not, it seems, been any noticeable increase in the recovery rate in mental cases. If, however, we follow the modern trend towards mental hygiene and more extensive clinical service, especially in the early stages of mental disturbance, there should be a larger percentage of recoveries.

The present mental hygiene movement is an inspiring human story. The National Committee for Mental Hygiene is sponsor, so to speak, of what has been done in the various states of this country, and it has also spread its activities and influence to European countries. World-wide interest is indicated by the

fact that next May the International Congress for Mental Hygiene will meet in Washington, D. C. At the same time and place the American Psychiatric Association, the American Association for the Study of the Feebleminded and the National Association for the Study of Epilepsy and Care of Epileptics, will hold their annual meetings. What an opportunity for Virginia doctors, psychologists and social workers. Clifford W. Beers, who had been insane and had regained his mental health, wrote a most interesting and inspiring book called "A Mind That Found Itself," which led to the inauguration of the present mental hygiene movement.

In mapping out a plan looking to an efficient program for mental hygiene for a state, which, of course, should be more or less elastic and adaptable, we do well to have in mind the suggestions of Dr. George K. Pratt, of the National Committee for Mental Hygiene. Broadly speaking, there are, he says, two divisions. The main function of one is educational. This is usually a voluntary organization, such as a state committee or society for mental hygiene. The other division is a statutory authorized state department or bureau having definite administrative powers. As a matter of experience, it has been found in some states, Virginia, for instance, that it is necessary and sometimes expedient and advantageous to have the two divisions combined in a state agency. But even under such circumstances much of the educational work is conducted through a voluntary agency, such as the Conference of Social Work in this State.

In a number of states mental hygiene societies or committees render valuable service. It is one of the chief sources of information to the public. Such a society was organized several years ago in Virginia, but on account of the World War it did not function. It should be reorganized and, if active, it would be one of the State's most useful voluntary agencies. The educational methods of a state mental hygiene program consist of dissemination of correct information through papers and talks before medical societies, civic organizations, schools, and other groups, publications in the medical and lay press, pamphlets and exhibits, such as the Department of Public Welfare had last August at the University, during the session of the Institute of Public Affairs.

Teaching of psychiatry and mental hygiene to medical students is the bedrock of an efficient state mental hygiene program for the reason that the relation of the general practitioner of medicine, especially the pediatrician, and the psychiatrist is, for obvious reasons, very close. While behavior disorders do not always have a medical aspect, in the case of defective children there is almost always a medical aspect. Every graduate nurse should also be required to include in her curriculum a reasonable amount of training in these subjects. The public health nurse, having a fair knowledge of psychiatry and of mental hygiene principles, occupies a peculiarly strategic position in her territory. She has an unparelleled opportunity in prevention of mental disorders. It is undeniable that the future of psychiatry lies in educational and clinical methods having as their main object prevention. The attorney would certainly have a far better understanding of medico-legal cases in which mental disease is an element if the law-schools gave a course in the subject.

A child guidance clinic is an essential part in every state mental hygiene program. The function of such a clinic, whether central or mobile, is to make a complete examination of each individual child relative to his heredity, his physical condition, his environment, his social and economic status, his family situation, his various conflicts, his habits, his sex life, his difficulties, his reactions, his emotional make-up, his personality traits, his school life and progress, his attitude to others and himself, his intellectual level and his psychiatric trend or disorder. Based on the findings of such examination, investigation, personal study and analysis, appropriate physical treatment and correction of unfavorable situations are advised for the purpose of bringing about healthy conditions and harmonious adjustments. An effort is then made in guiding and training the child so as not only to prevent ultimate failure, but to develop the best that is in him, to the end that he may become a healthy, well-behaved and productive citizen. The successful operation of such a clinic requires technicians and specialists in various fields, such as social service, psychology, pediatrics, general medicine, neurology and psychiatry. This significant language is used in one of the state mental hygiene bulletins: "Few psychoneurotic adults have had a happy, wholesome and normal childhood, and few

happy and wholesome children become psychoneurotic later in life. Mistakes in the care of the mind of the child are more serious, as mental traits become firmly fixed at an early age." The Commonwealth Fund is authority for the statement that there are now nearly 500 such clinics in this country, distributed over thirty-one states. Last year more than 40,000 children with all sorts of mental and nervous disorders and behavior problems passed through these clinics.

There is no feature in a prevention program that is of more vital importance than out- and in-patient clinics in connection with the state institutions for mental and nervous patients. The clinics benefit not only the furloughed patients, but serve the purpose of giving advice to others, particularly the border-line cases and patients with incipient mental symptoms. The value of social service, especially in connection with the state hospitals and their clinics is so obvious that discussion would seem to be unnecessary. Helping furloughed or discharged patients procure employment and giving them advice relative to various other difficulties with which they are confronted come within the scope of such work. Many cases require medical supervision by physicians trained in dealing with mental disorders. Nothing to my mind would promote mental medicine and advance the interest of the state hospitals and do more to give the general practitioner a practical knowledge of mental disorders than the more extensive use of these health centers—the state institutions for the insane, feeble-minded and epileptics, by having clinics there more frequently than is usually customary. Several states have such clinics, as above mentioned, in successful operation.

Psychiatric hospitals are being successfully operated in at least nine states; and psychopathic wards in at least twenty-six general hospitals have proven to be of particular value, especially in the treatment of mental cases in the incipient stages. Admission to psychopathic wards is for study, diagnosis and outline of treatment. All cases come of course, voluntarily, and their stay should be limited to say thirty days. Psychiatric or mental hygiene out-patient clinics in connection with general hospitals are of special educational and clinical value. Such clinics are operated to advantage in the hospital services of the medical schools of Virginia.

The prevention of feeble-mindedness and the control and care of the mental defectives constitute troublesome problems in every state. The committee on Cost of Medical Care in this country estimates the number of feeble-minded, imbeciles and idiots in the United States at over 900,000.

Three methods as state measures of prevention, control and care, have received study and consideration: namely, (1) segregation in institutions; (2) community supervision, and (3) sterilization. Segregation cannot, on account of the great public expense, be carried out to a more than comparatively limited extent. Some authorities have advocated, not without good reasoning, the segregation in institutions of only the lower grade of feeble-minded and idiots, and the morons, who are frequently delinquent or criminal, leaving the rest in the community under official supervision of some state agency. Dr. William A. White says, in his Lecture in Psychiatry: "I have been convinced for a long time that the feeble-minded could be industrialized in our large industrial centers, with great profit to themselves and to the community at large, provided, of course, that they were properly supervised as they would be in an institution." Application of sterilization under expert medical and surgical service and careful legal restrictions and safeguard, chiefly with the view, however, of eventually reducing the number of defectives and dependents, has advocates in several of the states. The law in Virginia is applicable to certain patients in the institutions for the insane, feeble-minded and epileptic.

The mentally defective and the problem children in school are entitled to a place in a state mental hygiene plan and have in many states, with the object of making them of as much economic use as attainable for them and preventing them from developing into dependents and delinquents, social and psychiatric problems. Such children should have adequate training, especially along manual, industrial and vocational lines, commensurate with their several abilities. The schools, therefore, are in position to render great public service to these children and to the community generally. Routine mental tests of school children, especially those whose mentality is questioned, are as important as physical examination, yet the mental status of the child is often entirely over-looked until it becomes a heavy burden

XUM

or a menace, or gets into court. Psychologists and visiting teachers constitute an essential part of the personnel equipment of an efficient public school system.

Mental disease being unquestionably a factor in many crimes, psychiatrists should always be available for service to courts in all doubtful cases, and especially in major crimes. The Juvenile Courts should have the advantage of the services of psychiatrists for a great majority of juvenile offenders. In some states, notably Massachusetts, very advanced steps have been made along the line of psychiatric examinations of persons charged with major crime. In Colorado all persons charged with crime, making a plea of insanity, are committed to the State Hospital for observation and study. The Virginia law relative to such cases meets the scientific requirements pretty well, but I would recommend some improvement in the law.

There is also need for psychological and psychiatric services in all prisons and industrial schools or reformatories. There is particularly a field of usefulness for the psychiatric social worker in making investigations of the background, social and economic, and the personality traits and mental abnormalities of convicts and juvenile delinquents and tracing any relation that may exist between the adult prisoner's childhood situations and maladjustments and his subsequent criminal course. Such investigations would, I believe, reveal some most interesting and important information bearing on the causes and prevention of crime.

The demonstration mental clinic at meetings of medical societies is of special value in giving medical practitioners a more intimate knowledge of various forms of mental disease and defect, their origin, development and termination, and how best to treat and deal with them. Such clinics have been held in some of the states and this year have been held in this state. They should in future be more frequently on the programs of State and local societies.

Virginia is speeding up its progressive march in public welfare generally to keep step with its material advancement. It has on hand a big mental hygiene problem to the solution of which much thought has been given. With the new century, new interests and new activities came, especially in social problems. The State Conference of Charities and Correction, now the State Conference of Social Work, organized in 1900, by a small group of men, initiated a progressive program relative to the various social problems—insanity, feeble-mindedness, epilepsy, delinquency, crime and dependency in which individual and public welfare were concerned. Gradually many others joined the movement. This new interest and a better knowledge of the situation led to appropriate legislation and better care and improved treatment of the state's wards, and ultimately to the present organized state welfare work, including the division of mental hygiene.

With the advent, in 1908, of the State Board of Charities and Correction, which has developed into the State Department of Public Welfare, there was a definite awakening in state-wide social welfare. The legislative bill creating this board was, strange as it may now seem, vigorously opposed by some, but those who were working for better things in Virginia succeeded. The colony for epileptics was established in 1908, after earnest effort for sixteen years by a small group. Special interest was aroused in the feeble-minded, resulting in a comprehensive survey and a very informative report of the situation in the State in 1916. This splendid work under the general direction of the Board of Charities and Correction, Dr. J. T. Mastin, its able executive secretary, having entire charge of this public service, and his subsequent accomplishments, are well known. The colonies for the feeble-minded were established in 1912, on a meager appropriation of $15,000. The board initiated in 1912 humane work among children by removing them from jails and almshouses and placing them in homes, and in 1914 the legislature enacted laws relative to the board's authority and duty in the matter. More interest in the child's personal life, and study of his home conditions, his habits and handicaps resulted. Steps were taken in 1914 and efforts continued to create a State Commission on mental health. The legislature in 1922 authorized such a body, but failed to make the necessary appropriation to carry out its purposes. Yet something was accomplished in the way of education and creating favorable public opinion. Finally, with a fairly good educational background and supported by those who were especially but unselfishly interested and had fair knowledge of

conditions in the State, action was taken. In the Children's Bureau, a division of the Department of Public Welfare, established in 1922, were initiated steps in connection with the study and treatment of children committed by the juvenile courts.

The first definite accomplishment of a permanent nature in organized mental hygiene in the State was the Richmond Children's Memorial Clinic, started in August, 1924. This child guidance clinic began its operation under the joint financial support of the city government, the city public school board, the McGuire Newton Fund, the State, and the Commonwealth Fund. It received for study all the children committed by the juvenile court of Richmond, those referred by the public schools, and also those committed by the courts, to the State Department of Public Welfare, until it established its own clinic last fall. The Children's Memorial Clinic, now under the direction of Dr. Harvey DeJ. Coghill, a well-trained psychologist and psychiatrist, and the State Mental Hygiene Clinic work in close unison and are mutually helpful.

Some facts relative to the present situation in Virginia will, I believe, interest the physicians of the State, and create further in their minds a realization of the need of a more vigorous campaign for the prevention of mental and nervous diseases. The data is interesting and significant: In January, 1923, for instance, there were actually in all the State institutions for the mentally sick 5,566 patients and 895 on furlough, or a total of 6,461. July 1, 1929, there were actually in those institutions 7,271 (4,817 white, and 2,454 colored), or a total increase of 1,705; 1,720 were on furlough, or 825 more than about seven years previously. The total number on the registers of the five institutions for the insane, feeble-minded and epileptics was 8,991, or an increase of 2,530 in that time. During the past year 2,005 cases were admited, as against 1,676 in 1922. It is interesting to note that fifteen years ago there were under care in these institutions only 4,853. The total number of patients under institutional care and supervision, that is, in the institutions and on parole, the past fiscal year, was 10,507. Although the institutions are crowded, no insane are kept in jails except for very brief periods, but even this is not to be approved. Temporary hospital service or other proper means of care should be provided for cases pending their legal commitment, except in especially disturbed and destructive cases. The State, however, already provides for emergency commitment to the State hospitals.

The following figures indicate what a heavy load the state is now carrying on account of mental disorders: Appropriated for maintenance and additional buildings and other permanent improvements and equipment for all the institutions for two fiscal years ending February 28, 1930, is the sum of $2,977,395. This does not include special revenues, such as those coming from pay patients, United States Veteran's Bureau, etc. For similar purposes, for two years ending February 28, 1914, the amount appropriated was only $1,290,185. But call back to 1900: There were 2,820 patients in the hospitals, but about 400 certified cases had been left in jails. The total appropriations for two years was $610,000, and $40,000 appropriated to care for "lunatics in jail."

There is ample evidence that the public conscience has been touched and that the State Government is more liberal than it formerly was towards its defective and dependent citizens. This is as it should be. The Governor of the State has for the past several years been especially concerned in the welfare of our mental unfortunates. This attitude is reflected in the foregoing figures and in the recent enlargement and good physical condition of the several hospitals. But the State should do more, and doubtless will. States, as well as nations, are never impoverished by the munificence of their charities.

Our State institutions have, notwithstanding their lack of sufficient funds in years gone by, done excellent work. It would be especially informative and interesting to review in this paper the splendid accomplishments in the development of the state care of the insane, the feeble-minded and the epileptic, and in the enactment of modern legislation, especially during the past thirty years, but the purposes of this paper are to deal with present conditions and needs and suggest at least a partial program for the future, dealing particularly with prevention. It is undeniably true that our institutions are rendering excellent public service and attaining good results, nevertheless the medical and probably the dental staffs are too small and the scientific equipment in-

XUM

sufficient to meet adequately the requirement of the highest medical standard; and the corps of graduate nurses is very much smaller than such hospitals should have in order to give good nursing service. The mentally sick are entitled to the very best care and treatment a State can afford to give them, and medical work and nursing occupy the foremost places. The mentally defective constitutes our present most pressing difficult problem. The Governor and the Commissioner of Public Welfare are favorable to the enlargement of the colonies for the feeble-minded and epileptics to the extent of not less than 250 beds.

The Virginia Bureau of Mental Hygiene and its work and plans should be of much public interest, especially to physicians. It is a new division of the State Department of Public Welfare. Its establishment was made possible by the progressiveness of Governor Byrd and by the support of the State government, supplemented by a liberal grant from the Commonwealth Fund. With intelligent understanding of the situation in the State relative to the need of prevention, supplemented by his usual activity in accomplishing things worth while in the field of public welfare, Frank Bane, Commissioner of Public Welfare, succeeded in establishing and organizing the Bureau this year with adequate personnel to conduct a developing mental hygiene program. The personnel of the Bureau consists of a director and chief executive, who is a psychiatrist, a director of the Child Guidance Clinic, who is also a psychiatrist, two psychologists, two psychiatric social workers, and sufficient clerical force. In addition, a distinguished psychiatrist is consultant.

The Bureau cannot hope for some time to accomplish more than a comparatively small part of a comprehensive task, such as I have outlined as a general state program. It has, however, at present a few definite objectives. It desires to carry out gradually a plan of education, and, in doing so, recognizes that the assistance and cooperation of physicians, health officers, social workers, teachers, ministers, courts, the medical and lay press, civic clubs, radio and other agencies are necessary. In carrying out the educational feature it contemplates enlisting the services of a group of especially well qualified individuals, including, of course, physicians. There is available an enormous amount of literature, both scientific and popular, giving an immense impetus to the general interest in problems of the mind. The Bureau has already initiated a small reference library which will be enlarged as rapidly as means are available. It hopes to become a center of much information relative to the insane, mentally defectives, and delinquents.

The State Mental Hygiene Clinic, having its headquarters at Richmond, is an important work of the Bureau. It examines and makes careful physical, psychological, social and psychiatric study of all the children committed by the courts to the Department of Public Welfare, numbering about 650 a year. Patients needing physical treatment are referred to the several out-patient clinics of the Medical College of Virginia. The Bureau provides travelling or mobile clinics equipped with qualified personnel, consisting of a psychiatrist, a psychologist and a social worker, for any city or locality, through request of authorized health departments, social agencies, school authorities and other recognized organizations. It has already begun this service in three cities and is planning to go to another in the near future. Because the organization of the Bureau was not completed until very recently, these activities were in a measure deferred. All cases referred to the clinic must have previously had physical examinations, and every one must be recommended or approved by a regular physician, who is interested, preferably the family physician.

The Bureau, being desirous of serving the State as well as possible, will, as far as its organization and resources permit, accept for examination and study by its clinics, some special problem cases referred to it by physicians, social agencies, and children's institutions, and will likewise make, as far as practicable, psychiatric and psychological surveys of children's institutions. It will aid, on request of proper authorities, in promoting mental hygiene in the public schools. The bureau has already been of service in connection with investigations of persons charged with or convicted of crime, and will enlarge its usefulness in that field when it has sufficient personnel to justify it.

Believing that one of the most efficient sources for prevention is to be found in properly conducted out-patient clinics, the bureau will promote in every way possible

psychiatric clinics in connection with the state hospitals as well as general hospitals. It will also especially aid in promoting psychiatric social service at the State hospitals, or in connection with patients on furlough from institutions. A social service follow-up system for paroled patients, now numbering about 1,700, would be a means not only of preventing, in many instances, relapses of mental disturbances, but would be a method of spreading the knowledge of mental hygiene throughout the State. Its social and economic value would be significant. Efforts were inaugurated in Virginia in 1915 in which the medical officers of the State institutions participated, relative to social service.*

The Bureau and the entire Department of Public Welfare most earnestly advocate psychopathic hospitals and psychopathic wards in connection with general hospitals, either as a separate State unit of the Department of Public Welfare, or as a part of the hospital system of the medical schools. This would be one of the most advanced steps that could be made in psychiatry and mental hygiene. The University of Virginia medical school has recently taken steps looking to the establishment of such a unit.

The psychiatric service at the penitentiary, initiated several years ago, should be enlarged so as to have a whole-time psychiatrist and a psychologist, and similar service should be provided at the industrial schools. To this should be added adequate social service. A follow-up system with discharged convicts would undoubtedly help to prevent recurrences of crimes, especially in those having a low mentality. The social history of every convict should be thoroughly studied so as to ascertain his childhood make-up, family and personal background, and study these in relation to his subsequent criminal conduct. The Governor's Mental Hygiene Advisory Board which began to function in 1918 has rendered good service at the penitentiary.

From the history of the splendid achievements in the prevention of the physical diseases by the Virginia Department of Public Health and the State Tuberculosis Association, the Bureau of Mental Hygiene gets inspiration and encouragement. It hopes and expects to be of value to the State in the field in which it has undertaken to work. Let us as physicians and humanitarians think seriously on the problems incident to the human mind, and set about earnestly in a constructive way in trying to find a solution, certainly to the end that mental disease and defect, crime and delinquency and their consequences, may be reduced.

In closing this presentation of a subject that cannot fail to interest and appeal especially to physicians, the guardians of the people's health, I feel that I can not do better than quote the language of a very distinguished physician and mental hygienist, Dr. Lewellys F. Barker, of Baltimore: "A campaign for mental hygiene is a continuous effort directed towards conserving and improving the mind of the people; in other words, a systematic attempt to secure human brains so naturally endowed and so nurtured that people will think better, feel better, act better, than they do now."

"Who dream shall live, and if we do not dream,
Then we shall build no temples unto time."

*Social Service Among the Insane, and Its Value in the Prevention of Insanity, by W. F. Drewry, M. D., Virginia Medical Monthly, April 9, 1915.

DISCUSSION.

DR. JAMES K. HALL, Richmond, Va.: The recognition of mental disorder as a disease is of recent origin. The development of the hospital for the diagnosis and the treatment of mental abnormalities dates back only to yesterday or the day before. Until recently the physical being has been looked upon, even by medical men, as one entity, and the mind as a separate entity. Each has been thought to exist and to function more or less independently of the other. Now we know that such a conception has been wrong. Now we know that the mind is as old, speaking historically and biologically, as the body. Now we know that physical functions and mental states are so closely coordinated and so mutually dependent and influential that what affects the one adversely affects also the other adversely. Now we know that a human being is a unified organism. Regardless of what the origin and the basic quality of the mind may be we know that it is that quality by means of which a human being adjusts himself, consciously or unconsciously, to his environment. It is that attribute through which one is enabled to have life more abundantly. The study of the mind out of order constitutes psychiatry. The condition is probably as old as the human race, although the referring term is new. David either had an attack of acute mania, or else he had observed mania in another keenly enough to enable him to simulate it. At any rate, David's behavior in an emergency was so strange that his pursuers reported him to be insane. And the condition, whether feigned or real, served the purpose of saving him from his enemies.

Laws prevail in the dominion of the mental just as they prevail in the domain of the physical. Violations, conscious or unconscious, of the laws of health result in disease. That statement holds whether the violation be within the sphere of the psyche or within the region of the physical being. We are beginning to find out that recovery from

mental dysfunction occurs about as frequently as recovery from serious physical disorder. Disease in the one domain is about as susceptible to treatment as disease in the other domain. And if permanent disorder must prevail it is better that it should hinder the body rather than handicap the mind. It is written that as a man thinketh, so is he. Man by his wit is constantly making possible energy-systems much more powerful than his own muscular machine. Motors and engines and water-wheels are better sources of power than the human body, or the muscular strength of any number of beasts. But man can devise no satisfactory substitute for his own mentality. The hope of mankind and the progress of the race lie in the integrity of man's mind. No other possession is so intimate and so individualistic as one's own mind. No other attribute is so consequential as one's state of mind. If one's mental condition is wholesome nothing else can matter much.

The function of mental hygiene is to enable man to bring his mind up to the highest level of development, to teach him how to preserve and protect it, and how to deal with the mind in its states of sickness.

In this Commonwealth of Virginia all conduct disorders of sufficient consequence to cause them to be noticed by the law are cared for in a general way in institutions that operate under the auspices of the State's Department of Public Welfare. In this Department a Bureau of Mental Hygiene has been set up. Dr. W. F. Drewry has been placed in charge of this Bureau. He has just been telling us what this Bureau intends to undertake in an effort to help the physicians of the state with those individuals who are having difficulties in their own mental lives. The Bureau is anxious to help the efficient to become more efficient, it is equally as anxious to help the inefficient to become more adequate, and it is even more concerned in helping the mentally sick to be well again. And these are not vain hopes. Certainly a mind diseased can be ministered unto, and often it can be made whole and happy again. Dr. Drewry is known to you better perhaps than any other doctor in the State Society. He is nationally recognized as a psychiatrist of great acumen. He means as much to the welfare of the citizenship of this state as any other man in Virginia. I am certain that I am justified in assuring him of the hearty support of this organization and of every individual member of it in his high undertaking.

RESOLUTIONS.

The following resolutions were adopted by the House of Delegates of the Medical Society of Virginia at its annual meeting in Charlottesville, October 22-24, 1929:

WHEREAS, The problem of the mentally ill and defective seems to be coming more serious from a medical as well as an economic standpoint; and

WHEREAS, The prevention of mental disease and defect is of vital importance to the State; and

WHEREAS, Mental hygiene is a problem, the solution of which is primarily a medical function. Therefore, be it

Resolved, That the Medical Society of Virginia approves most heartily the recent activities in the State looking to the development of a comprehensive mental hygiene program, which has as its main purpose the prevention of mental disorders and defects;

That it commends the extensive structural additions and the various material improvements that have been made, especially in recent years, at the several State institutions for the insane, feeble-minded and epileptic;

That this Society calls especial attention, with approval, to the recommendations of the hospital authorities relative to increasing the medical and nursing staffs to the end that these institutions may be in a better position to become centers of scientific mental medicine;

That the State hospitals and colonies be thoroughly equipped with all modern facilities needed in the proper care and effective treatment of their insane, feeble-minded and epileptic patients;

That means be provided so that the patients in these institutions may be furnished with the most approved dietary—so essential to their well-being and recovery;

That this Society emphasizes the great need in this State for very material enlargement of the colonies for the feeble-minded and epileptic;

That the State make sufficient enlargement of the hospitals so as to provide ample accommodations for all the insane needing hospital care and treatment;

That this Society earnestly recommends to His Excellency, the Governor, and to the Legislature to provide sufficient appropriations to enable these State institutions to measure up to the standard of the best State institutions in the country; and to maintain an efficient mental hygiene program looking to the prevention of mental disorders and defects and delinquency; and

That this Society heartily recommends the establishment of a chair of psychiatry in each of the medical schools of the State.

THE PROBLEM OF CORONARY DISEASE.*

By J. MORRISON HUTCHESON, M. D., Richmond, Va.

During the past decade there has been evident a rapidly growing interest in the clinical aspects of coronary disease, a subject that formerly belonged almost exclusively to the pathologist. As a result of more critical study, the importance of obliterative lesions in the coronary circulation has been recognized and their significance more clearly appreciated. This advance in knowledge centers about the classical description of acute coronary thrombosis given by Herrick, but it has also become apparent that in many instances even acute occlusion fails to produce this picture and that atypical or occult coronary disease is extremely common. Such cases with mild or atypical symptoms, masquerading as indigestion, angina, myocarditis, cardiac dilatation or arrhythmia, furnish to the clinician the real problem of coronary disease.

While our knowledge of the coronary circulation in its relation to cardiac physiology and pathology is far from complete, certain

*Read by title before the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, Va., October 22-24, 1929.

facts of fundamental importance have been clearly established. Chief among these is the discovery that the coronaries are not end arteries as was formerly thought, but that they do have anastomoses and can establish an efficient collateral circulation. The work of Gross and others has emphasized this fact and also that the capacity for anastomoses varies in different individuals and at different periods of life. Furthermore, from careful correlation of clinical and autopsy findings, it has been learned and is now generally appreciated that cases of acute thrombosis develop a picture easily recognized at the bedside; that many of these cases survive the attack and that they may even regain a good degree of cardiac function. Moreover, it has been shown, both from experimental ligation of the coronaries and from the study of patients, that damage to the cardiac circulation produces changes in the electrocardiogram that are often of the greatest diagnostic significance.

The cause of coronary disease is that of degenerative changes in the vascular system generally. While infection may play a part in certain cases, as when syphilis involves the root of the aorta, there is little proof that previous carditis or focal infections are important etiological factors. Other supposed causes, such as tobacco, diet and strenuous living, are likewise of doubtful significance. From the evidence now at hand, it appears that coronary changes are for the most part arteriosclerotic and represent one important phase of the aging process to which all living things are subject. The age incidence is that of arteriosclerosis, most cases occurring in individuals past forty, but occasionally one encounters an advanced degree of coronary sclerosis in a surprisingly youthful person.

The symptoms resulting from coronary occlusion are variable and depend chiefly upon: (1) the size of the vessel occluded, (2) the rapidity of closure, (3) the condition of the remaining coronary vessels as regards their capacity for collateral circulation. The clinical picture so well described in recent years by Herrick and others and now readily recognized by most physicians probably appears in the majority of patients who suffer a sudden occlusion of a coronary branch of considerable size. There is severe pain, precordial, substernal or epigastric, unrelieved by rest or nitrites, circulatory collapse and, as a rule, fever with leucocytosis. In most instances, pain dominates the picture, but quite often it is insignificant or absent and sudden heart failure is the outstanding feature. At times death is instantaneous without pain, while mild cases undoubtedly occur in which recognition of the true condition is impossible. In arriving at a diagnosis, too much emphasis cannot be placed upon the presence or absence of any one symptom or sign. The blood pressure may show very little variation; breathing may be surprisingly comfortable; fever or leucocytosis may be missed as they often appear for a brief period. A friction rub has, in my experience, been relatively uncommon. Where the occlusion is gradual and collateral circulation good, numerous large infarcts may be produced with no signs except slowly diminishing cardiac reserve.

In the study of doubtful cases the electrocardiogram is of the greatest assistance. The changes produced in the record are easily recognized and so characteristic that, when they are found in patients with only a suggestive history, they may be regarded as speaking strongly for coronary disease. These changes, however, sometimes persist for a short space of time and may be missed unless records are taken at frequent intervals, beginning soon after the attack, a procedure that is rarely practicable. Barnes has recently stated that, from the electrocardiographic studies in patients with infarction and coming later to autopsy, he has been able to locate the point of infarction with a high degree of accuracy.

How to differentiate between angina pectoris and coronary disease is often a difficult problem. After all, attacks of angina may represent temporary coronary closure or permanent occlusion of small branches. It is well known that patients with clinical angina frequently develop recognizable coronary disease sooner or later and that they usually show evidence of it at autopsy, though the manifestations of thrombosis may have been entirely lacking. Cardiac pain always suggests coronary disease as a likely explanation and one that can rarely be easily dismissed. While we should probably do well to abandon altogether the practice of diagnosing angina, certainly the significance of the syndrome should be determined from an objective examination

of the patient and not alone on the character of the pain.

From experience heretofore recorded in the literature, it appears that more than half the patients who suffer coronary thrombosis succumb in or soon after the attack. This is doubtless true of the severe and easily recognizable cases. But it is also true that many cases are not recognized, as evidenced by the frequency with which infarction has been an unexpected autopsy finding and the common occurrence of fibrotic changes, the end result of multiple occlusion of smaller coronary branches. It would seem, therefore, that if the milder cases were included, the immediate mortality would be much lower than it now seems to be.

When we realize that recovery is likely and that it depends upon reestablishment of circulation through collateral anastomoses, the importance of the recognition of coronary accidents becomes obvious. The period immediately following thrombosis is a most critical one for the heart and it behooves us to see that no chances for recovery are lost through unwise or over-energetic treatment. A few case histories will illustrate some of the variations in the picture that are commonly met with.

Case I. Sudden Heart Failure, With Fibrillation and Without Pain

A white male, clerk, aged forty-one, previously in good health, suddenly developed irregular heart action and shortness of breath. These symptoms increased in spite of a month's bed rest and later the feet began to swell. Examination six months after the onset of symptoms showed normal blood pressure, moderate sclerosis of peripheral vessels, slight cardiac enlargement and auricular fibrillation. Electrocardiogram done at this time showed no significant changes except the fibrillation. Response to treatment was poor, congestive failure continued, hemiplegia developed probably due to embolism, and death occurred one year later. There had been no pain at any time. Autopsy showed a rather large heart with an organized clot in the right auricular appendage and right ventricle. The right main coronary was sclerotic and was blocked by a long tough thrombus. The valves were normal.

Case II. Sudden Heart Failure, Pain Insignificant

A married woman aged fifty-six consulted me on account of dyspnea on exertion and soreness over the upper abdomen. Except for nervousness, she had always been well and unusually active. Two months previously, while digging in her garden, she had experienced a rather sharp precordial pain lasting only a few minutes and relieved by rest, but following it she was definitely short of breath. A week later she had another pain of brief duration, coming on exertion and relieved by rest, but noticed later that she was more dyspneic and sore over the upper abdomen. A week's rest and the administration of 16 grains of digitalis leaf had relieved her greatly. Examination showed a blood pressure of 130/84 with alternation. The heart was definitely enlarged with rate of 80 per minute, gallop rhythm and a systolic murmur at the apex. Moist rales were heard at the lung bases ,the liver was somewhat enlarged and quite tender. The electrocardiogram revealed normal rhythm and A-V conduction, T-wave inverted in leads II and III, main ventricular deflection wide and notched throughout, left ventricular preponderance. It was believed that she had suffered a coronary accident and advice was given accordingly. Death occurred suddenly one week later without pain. No autopsy was done.

I have seen several patients with a history of angina of effort, with or without other evidence pointing to coronary disease, in whom death was instantaneous and without pain. Just what the manner of death is, is an interesting speculation which even the finding of thrombosis at autopsy does not settle. Rupture of the heart, embolus in the pulmonary artery, heart block, vagus inhibition and ventricular fibrillation are possible explanations. Of these, fibrillation of the ventricle seems most satisfactory as it is more in keeping with the clinical picture and has been shown to occur soon after experimental coronary ligation.

Case III. Attacks of Angina Terminating in Fatal Thrombosis.

A farmer of sixty-six complained of pain in the left chest, radiating to the arm as far as the elbow. He was sure that it had occurred off and on for twenty years but had become much more frequent and severe. Attacks were induced by slight exertion or by eating and

always relieved by rest and nitroglycerin. Three weeks' rest in bed had resulted in little or no improvement. Examination showed a spare, muscular man with general arteriosclerosis of moderate degree. The blood pressure was 114/80, the heart not enlarged, rhythm normal, no murmurs. The electrocardiogram revealed an inversion of the T-wave in lead I and left ventricular preponderance. After two weeks of observation and treatment there was no appreciable improvement, as pain resulted from the least exertion and nitroglycerine was required five or six times a day. The patient was afraid to eat or move around and, as his condition was so miserable, paravertebral injection with alcohol of the first five dorsal roots on the left was done. There was prompt relief of the paroxysmal pain but within a week a dull, constant ache appeared over the precordium, worse on exertion and not so well relieved by nitrites as the paroxysms. Eight days after the injection there was a terrific attack of substernal pain, with dyspnea, ashen complexion and falling blood pressure and death within eight hours. During the attack a pericardial friction was heard for the first time. Autopsy revealed a small amount of slightly turbid fluid in the pericardial sac, and there were several patches of superficial pericarditis. A number of old infarcts were seen on the heart's surface and the left main coronary was blocked by what appeared to be a recent clot.

Case IV. Pain Suggesting Surgical Lesion of Abdomen. Coronary Thrombosis in Patient of Thirty

A white male bookkeeper of thirty was admitted to the surgical service of the Johnston-Willis Hospital, suffering from epigastric pain. He was acutely ill and the question of a perforated peptic ulcer had been considered. He stated that his blood pressure had been found high eighteen months previously, but otherwise he had been in good health. Nine days before entering the hospital he had been suddenly seized with rather severe epigastric pain that did not radiate, nausea and vomiting and intense soreness over the entire upper abdomen. For several days there had been increasing shortness of breath.

Examination showed a well-developed young man with pale complexion and obvious dyspnea. The pulse was rapid and regular, blood pressure 218/142. There was an advanced degree of sclerosis of the retinal vessels, the radials were moderately thick. The heart was markedly large with gallop rhythm, accentuated second aortic and no murmurs. There were numerous moist rales over the lung bases, the liver was large and tender. Electrocardiogram showed elevation of the R-T interval and inverted T in leads I and II. Temperature was 101. White blood cells 15,700.

On treatment, consisting chiefly of absolute rest, there was temporary improvement which was followed by rapidly progressive congestive heart failure and death four months after the initial attack.

Autopsy, limited to the heart, showed a number of old infarcts, tortuous beaded coronaries and complete obstruction of the anterior descending branch of the left coronary.

Case V. Repeated Attacks, Typical and Atypical

An obese man of fifty was brought to the hospital forty-eight hours after the onset of a severe attack. He had previously been in good health, but a recent insurance examination had revealed a blood pressure of over 200. Soon after a rather heavy meal he was seized with a severe pain beginning in the left arm and involving the chest and epigastrium. This was accompanied by nausea, vomiting and great prostration. Several hypodermics of morphine afforded only temporary relief, the severe pain lasting twenty-four hours.

Examination showed an ill-looking patient of ashen complexion but lying flat without marked dyspnea. The pulse was regular and 112, blood pressure 88/68. The heart was greatly enlarged, the sounds feeble, no murmurs. Moist rales were heard at the lung bases. Liver was not enlarged. Leucocytes 16,600. Temperature 101. Electrocardiogram showed striking changes in the R-T interval and T-wave which varied from day to day, gradually developing after two weeks a typical coronary T.

Improvement was rapid, the blood pressure slowly rose to 142/92, and the patient left the hospital in three weeks. Two weeks after discharge he had considerable substernal pain, not enough to require morphine, and was readmitted to the hospital. A fall in blood pressure, fever and leucocytes and further changes in the electrocardiogram were noted. Improvement was steady and he was again discharged entirely comfortable.

XUM

A month later he became suddenly dyspneic in the night and when seen three days later the picture of acute congestive heart failure was presented, but in this attack there had been no pain. Again fever, leucocytosis and electrocardiographic changes were noted. On rest and digitalization with morphine for several nights he became comfortable, but after two weeks in the hospital another attack of substernal pain occurred requiring morphine and lasting twenty-four hours. This was accompanied by a rise in fever and leucocytes.

MacLean, in a study of ninety-five unselected hearts from patients of various ages, found that practically all past forty and a considerable number under forty showed a certain amount of coronary sclerosis. While most of these had no clinical heart disease, all were potential coronary cases and candidates for thrombosis. Even if such hearts escape occlusion of a large vessel, the impaired circulation resulting from sclerosis doubtless proves an important factor in myocardial failure, especially if to it is added valvular disease or hypertension. In examining hearts of individuals dying in middle life, presumably from old rheumatic heart disease, one not infrequently gets the impression that advancing sclerotic changes in the coronaries decided the issue rather than defective valves.

From the clinical standpoint, the question of the coronaries in relation to acute or chronic heart failure is constantly presenting itself for solution. Although the complete picture of acute occlusion is relatively uncommon, familiarity with its various features is an essential step toward recognition of atypical and subacute cases. With these features in mind, a careful history will often lead to a reasonably certain conclusion which may be further strengthened by physical examination and laboratory studies. A close scrutiny of blood pressure variations, of fever and leucocytosis is helpful, while the electrocardiograph is usually of advantage and sometimes indispensable.

Professional Building.

It ain't no use to grumble and complain;
It's just as cheap and easy to rejoice;
When God sorts out the weather and sends rain,
Why, rain's my choice.

—*Riley.*

THE RELATIONSHIP OF ECONOMICS IN MEDICINE TO OUR PROFESSIONAL IDEALS.*

By E. L. KENDIG, M. D., Victoria, Va.

I shall not attempt to fully discuss this subject. These remarks are limited to only a few of the things which affect the economics and ideals of the medical profession. What is presented is said in no spirit of criticism. My only desire is that the different views of those present may be brought out.

It is said that medicine has made more progress in the last thirty-five years than in all time before this period. How much this is correct, no one can say. This is because the science of medicine is cumulative. The structure is built one brick upon another. Like a snowball, the more you roll it, the more progress you make. This progress can be visualized by calling to mind the modern hospital, the approved clinical and pathological laboratory, the electrocardiograph, the X-ray, the various instruments of precision, preventive medicine, aseptic surgery, standardized pharmaceuticals, physiotherapy, intravenous medication, transfusion, immunization, and the hundreds of other things made use of in modern medicine.

Our profession is not the only thing that has changed. The world has made progress in every direction. We do not live like they did thirty-five years ago. Telephones in practically every home can call the doctor in a few minutes. With an automobile and good roads, the physician can cover a larger territory. The patient may in a very short time be brought in an automobile to the doctor's office or to the hospital. Drugs, accessories for the sick room, and nurses can be secured easier. Good hospital facilities are made more available each year. Newspapers and periodicals in every home give publicity to everything that is being done. The people have learned to expect more from the physician of today.

These are the things that have changed the work of the general practitioner. These are the things that have given birth to specialism.

We hear a great deal today about the passing of the country doctor. The good country doctor, as known in the past, is unquestionably passing away. As each one of them dies or relinquishes his work, there is no one to take

*Read at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

his place. This is caused by modern medicine and the change in the manner of living of the people. The passing of the old time country doctor does not necessarily mean the passing of modern doctors to serve our communities. Modern doctors will be found to serve every community if they have the facilities for doing good professional work and can earn an adequate income.

In order that a physician may render the service expected of him, hospital connections are most desirable and laboratory facilities are necessary.

Goldwater says, "The key to nearly everything that makes for efficient medical practice today is in the hands of the hospitals." According to the report of the Council on Medical Education and Hospitals of the A. M. A. this year, only 1,397 physicians in Virginia have hospital connections and this includes duplications in reports. Making allowances for this duplication, it is estimated that considerably less than one-half of the physicians in the State have the use of hospitals. This report shows that 42 per cent of the counties of the State have no such institutions. It also shows that more than 81 per cent of the beds in general hospitals of the State are located in cities of 5,000 inhabitants or more. The small private hospitals, which do exist in the small towns and the country communities, are usually maintained by the local physicians themselves at a great trouble and expense. This same article reported ninety-one clinical laboratories and eighty-eight X-ray laboratories in Virginia. The report shows that nearly all of these laboratories are located in cities of population of more than 5,000. I presume this report does not include laboratory work done for physicians by the State Board of Health. This Board has a central laboratory and several smaller ones in the different sections of the State. These State laboratories are doing a wonderful work, especially for the physicians in the smaller towns and country. However, under the circumstances, they cannot and do not presume to supply all laboratory facilities which a physician will need in his practice.

In this day of modern medicine a desirable situation would be to have a hospital and a laboratory within reach of every physician. With the present ease of transportation this is not impossible.

Any moderately prosperous community can support a physician if he can get a fair part of what that community has to spend for professional services.

It is said by some that the public health clinics interfere with the work and income of the local physician. An idea developed by Dr. Shirley W. Winne, Health Officer of New York City, looks like it might help solve this vexed problem. This health officer made arrangements with the local medical society under which the physicians might agree to give toxin antitoxin to the children of that city. A letter was sent by the Health Department to each physician asking if he would give the treatment; and, if so, to state his office address where he would give the treatment and what hours of the week he would do the work. A price was fixed for the work. After this information from the doctors was received, a letter was sent by the Health Department to the parents of each child to be inoculated, stating that toxin antitoxin should be given within a certain time. In the letter was enclosed a slip with the names and addresses and office hours of three nearest physicians who had signified their willingness to give the treatment, and with the statement that either one of the physicians mentioned could be used. A follow-up method was used until the children were all given the treatment. The Health Department has the means of publicity, the authority, and the organization: The physician has the equipment, the time, and the knowledge to do the work. It seems that the two together would do this work well to the mutual advantage of each other.

Haggard says, "One of the greatest romances in the art of medicine has been the amazing growth and perfection of the specialists." The work of the specialist is more spectacular than that of the general practitioner. Few young doctors now want to be general practitioners. Most of them want to specialize. So great is the trend towards specialism that there is a danger that some may call themselves specialists when they are not in the true sense of the word. There is a temptation by reason of this overcrowding for the trading of patients between those doing special work. It comes about in this way. The general practitioner sends a patient to a specialist needing work to ascertain certain information in his particular specialty. The patient

XUM

is examined and, without the knowledge of the referring physician, is sent on the rounds to see all different kinds of specialists. The information secured, with the exception of what the patient was originally sent for, is usually what the referring physician already knows. The result is that the patient is in most instances stripped of funds when he comes back. The referring physician may not even hear from the man who takes the patient on the rounds. The referring physician in this way loses both money and prestige. The general practitioner in towns and small communities is not blameless. This lack of coordination between the general practitioner and the specialist may cause the general practitioner to undertake cases which should be in the hands of those doing special work. Also there is a disposition on the part of the general practitioner to send his patients away as soon as he needs help when in most cases it would be better first to call in his competitor as a consultant. The local competitor does the same thing. In that way both of them lose in income and the practice teaches the patient to leave home for medical treatment rather than seek it there. The well qualified general practitioner is a specialist in the general practice of medicine. It requires as much knowledge as special work and as much common sense. Goldwater further says, "The specialist is at best the hope and the despair of modern medicine * * *. Specialism has split the forces of medicine into numerous small bodies, which valuable as they may be for skirmishing purposes and in certain critical emergencies, are powerless to act as an effective unit in the endless struggle against disease." Only a scientific, ethical, and economical coordination between the different branches of medical practice will be effective in this struggle against disease.

There has been a rise in the cost of medical care. To combat this high cost of medical service, some big business men are advocating the organization of medical practice along the lines of big business organizations. This view is held by Mr. Embree, director of the Rosenwald Foundation. Others are advocating some form of social or State medicine. There is a possibility that this idea may be taken up by the people who live in the rural sections and those upon whom the cost of medical service falls most heavily. If so, the combined forces favoring the organization of medical practice would be formidable. These advocates, however, fail to realize that the relationship between the physician and the patient is such that it will be impossible to mechanize medical practice. The editor of the *Journal of the American Medical Association* says that the rise in the cost of medical care is a reflection on the increased knowledge that has come to the practice of medicine. A National Committee, known as the Committee on the Cost of Medical Care, is now getting together data and making a study of these costs. The American Medical Association at its recent Portland session appointed a special committee to make an investigation of the subject of medical economics. This committee will no doubt include in its report the present cost of medical care. No matter what the conclusions of these committees may be, it is a fact that at present the cost of medical care has become quite a burden to people of moderate means. The rich are able to pay for good medical treatment. The poor and the dead beats take advantage of charity, but the honest people of moderate means, oftentimes find the cost of medical treatment a burden. I shall not attempt to solve the matter of these medical costs. There are certain things, however, which are fundamental. The maintenance of hospitals and laboratories convenient to physicians in all localities, an established system for reference and contact work between the physicians themselves and the education of the public in the proper relation which should exist in the various fields of medicine, will go a long way towards lessening the cost of medical care.

Summary

1. The old country doctor is gone and will not return. His going is not caused by a change in the nature of men of medicine but is caused by a change in the system of medicine and a change in the manner of living of the people.

2. The country and small towns will still be served by physicians and these physicians will be men of modern medicine. The number of these physicians will depend upon the facilities available and the income earned.

3. The work of the general practitioner and public health officials should be so worked out that there will not only be no conflict but each will work for the benefit of the other in

that common cause in the prevention and cure of disease.

4. Specialism is an important factor in modern medicine. This very importance places upon those who follow it an added responsibility.

5. A recognition both by the public and the profession of the relation, scope, and limitation of each branch of medical practice will help bring about at a less cost a more efficient medical service.

6. In adjusting these problems, it should be always remembered that good real human and scientific medical service is the great object of medicine.

REFERENCES.

1. Editorial, *Journal A. M. A.*, August 10, 1929.
2. Goldwater, S. S.: *Journal A. M. A.*, March 28, 1925.
3. Goldwater, S. S.: *Journal A. M. A.*, May 28, 1927.
4. Haggard, Wm. D.: *Journal A. M. A.*, May 30, 1925.
5. Harris, Percy: *Va. Med. Monthly*, April, 1929.
6. Hospital Service in the United States, *Journal A. M. A.*, March 30, 1929.
7. Mayer and Harrison: The Distribution of Physicians in the United States, General Education Bd., 1924.
8. Project of Diphtheria Prevention Commission, Dept. of Health, New York City, December 1, 1928.
9. Seeman, W. H.: *Southern Med. Jour.*, December, 1920.
10. Williams, E. G.: *Va. Med. Monthly*, October, 1922.

STARTING THE UNCOMPLICATED DIABETIC ON TREATMENT.*

By F. H. SMITH, M. D., F. A. C. P., Abingdon, Va.

You will understand the difficulties we are under in the attempt to introduce such a topic as diabetes mellitus, and dispose of it, in a few minutes. In these circumstances, please explain what seems to be blunt, dogmatic statement by the necessity for terseness.

I shall limit myself to a simple outline of my approach to the problems of starting the adult diabetic of average severity and without material complications on treatment.

There are still doctors who are not handling these uncomplicated cases, not to mention the complicated ones, as the resources of the present day permit us to. One group, usually from the older practitioners, still content themselves with the simple instruction: Leave off sugars, sweets and the heavy starches, and the diabetes will be apt to take care of itself. Another group, this time usually from the younger practitioners, say to the patient: Since we have insulin, you need not trouble to diet strictly. Eat pretty nearly what you please, and we will give you insulin enough to supply the deficit. Each plan is faulty, the second actually courts danger. The danger arises through the constant strain upon, and consequent lessening of, carbohydrate tolerance, so that there is no reserve left for the inevitable crises and emergencies of every diabetic life. Exceed the bounds of the individual's tolerance, and tolerance lessens. Stay within it, and the carbohydrate tolerance usually increases.

The *problem of management* is easily stated. It is to devise, prescribe and insure the administration of a diet, which by itself or, if necessary, with the aid of insulin, will maintain the patient at or about his normal weight and energy, and which will at the same time render his urine sugar free, reduce his blood sugar to and maintain it within the normal, all the while guarding the patient against acidosis, and other complications growing out of the diabetic state.

Thus having stated the problem, the several steps in its solution may be stated:

1. MAKE A COMPLETE PHYSICAL EXAMINATION. I shall not dwell upon this long, but it cannot be over-emphasized. Look for diabetic and non-diabetic complications. Any complication may materially alter both the management and the prognosis.

As for an appraisal of the diabetic state itself: Either the total 24-hour urine, or the several voidings separately, should be examined and the sugar determined, *while the patient is on his ordinary diet.* To say a diabetic is sugar-free on the result of analysis of a single specimen is altogether slip-shod. In most cases, an intelligent, scheming diabetic can get life insurance, for instance, by partially fasting for about three days. The glycosuria will often entirely disappear.

The output of sugar will vary from one voiding to another. We must know both the total output of urine and the percentage of sugar. If the glycosuria cannot be determined quantitatively, it can be approximated by determining the number of drops of 24-hour urine needed to cause reduction of the *standardized* copper solution.

It is helpful to determine the blood sugar

*Introducing Round Table Discussion of Diabetes Mellitus, Southwestern Virginia Medical Society, Galax, Va., September 16-17, 1929.

level at this preliminary examination, so that we can gage the severity of the diabetic process under the man's usual habits.

The *net* weight and height of the individual, as well as age and sex, should be known, for reasons immediately to be mentioned.

2. Determine the Total Food Requirements, in Calories Per 24-Hours, for This Individual. Individual caloric requirements vary with the height, weight, age and sex of that person, and the character of his work. For instance, a man of 40, net weight 150, height 5′ 9″, will require 1,640 calories daily to maintain his weight while lying quietly in bed. That is, his *basal caloric needs* are 1,640. From 40 per cent to 80 per cent more will be added for maintenance under work conditions. Most adult diabetics work out to require between 2,000 and 2,500 calories, *when the needs are calculated on the basis of the ideal weight rather than the actual.* A little woman may require only 1,500 calories daily, while a farmhand may need 3,000. An average boy of 12 years will require about 1,500 calories daily. These calculations can easily be determined from a number of available tables, for instance, that of Boothby and Sandiford, published in 1921.

3. Distribute the Total Caloric Requirements Among the Several Food Principles, carbohydrates, proteins, and fats. Each gram of carbohydrate and of protein supplies approximately 4 calories, and each gram of fat supplies approximately 9 calories.

A man will rarely be satisfied long on *less than* 100 gm. of carbohydrate in 24 hours. So, in my work, I rarely attempt to prescribe less than this. If he can't metabolize 100 gm., he will probably require insulin. The average man takes 300 or 400 grams.

4x100=400 calories derived from carbohydrates.

Proteins supply material necessary for growth and repair of tissue. The average adult requires about 1 gm. per kilo (2.2 lbs.) of body weight. That is, the man of 150 lbs. will require about 70 gm. proteins in 24 hours.

4x70=280 calories derived from proteins.

The younger the individual, the greater, proportionately, the protein requirement. A young child may require 2 or 3 gm. per kilo. The nephritic with nitrogen retention, on the other hand, may have to be reduced to 0.5 gm. per kilo. Rarely should proteins be reduced below 40 gm. per day for any length of time.

So, 680 of the, say, 2,400 needed calories have been derived from carbohydrates and proteins, leaving 1,720 calories to be supplied by fats. Since each gram of fat supplies 9 calories, 190 gm. of fat will suffice.

We have thus arrived at a food prescription which will need:

C. 100, P. 70, F. 190=2,390 calories.

There have been advocates of higher-fat, lower-carbohydrate diets. It seems, however, that fats (lipoids) are in some way responsible for vascular changes, resulting in arteriosclerosis, gangrene, etc. So Joslin remarks that since insulin was discovered we are saving diabetics from infection and coma, only to lose them later with gangrene and other vascular accidents, due to long-continued high-fat feeding. Hence, there has arisen a tendency to further increase the carbohydrate at the expense of fats, even if in so doing insulin be required. I feel, however, that as long as the ratio of fats to carbohydrates does not exceed 2:1, and the carbohydrates are properly metabolized, the fats should and will be completely burned also.

4. Instruct the Patient, or some member of his family, in the Calculation of the Prescribed Diet From the Tables. Usually one of the younger folks, especially a girl, is better. They catch on more quickly. Occasionally, no one of the family can be taught to calculate the diet. Then, we have to fall back upon ready-made menus. Calculations, however, are far superior. The exercise makes for accuracy: there can be wider choice of foods to allow for individual likes and dislikes, and for the availability of food stuffs; and through the ability to vary the diet, we can avoid monotony. The amateur dietitian should be instructed in the palatable preparation of food, the proper division of the food allowance into the three meals of the day, and the place of green vegetables in supplying bulk to the diet.

In a mild, easily controlled case, rough food measurements may do. In a delicately balanced case, insistence upon the purchase and use of scales, weighing in grams, may avoid the use of insulin.

5. Allow at Least Three Days for the Accumulated Sugar to Run Off. Then have the patient submit the 24-hour urine, or, better still, each separate voiding. Use the opportu-

nity to inquire into and to correct any mistakes that are being made.

If all has been done correctly, and there is not a material reduction in glycosuria, the patient will probably require insulin. If, however, there is a substantial reduction, even though the glycosuria has not entirely cleared up, possibly a slight reduction in the food intake, or actually weighing the food allowance, rather than guessing at it, may suffice.

About three out of four of our adult diabetics can get enough food for comfort, and yet keep the diabetes under control, without insulin. Sometimes one has to be aided to become sugar-free with insulin, and can later abandon it as his carbohydrate tolerance increases.

It is well to learn the exact level of blood sugar at which sugar appears in the urine, i. e., the individual's renal threshold for sugar. This is helpful because in some emergency, negative urine will be reassuring, *only if we know the threshold is not high.* The usual, or average, threshold is 170 mgm. of blood sugar per 100 c.c. of blood. But this is quite variable: some are much lower, approaching the so-called "renal diabetes;" some have thresholds of 200 mgm. or higher. These latter might easily slip into a dangerous state of hyperglycemia while we fool ourselves into thinking there is no danger because the glycosuria is relatively small.

6. Finally, remember that ANY COMPLICATING FACTOR, however trivial it may seem—a common head cold, a mild diarrhea, the inception of pregnancy—MAY UPSET THE BALANCE. Unless the patient is forewarned and instructed in this possibility, he may slip into coma, or other grave crisis, in an incredibly short time.

Johnston Memorial Clinic.

SEVERE DYSMENORRHEA—WITH REPORT OF CASES TREATED BY THE CLELAND OPERATION.*

By C. J. ANDREWS, M. D., F. A. C. S., Norfolk, Va.

The treatment of severe dysmenorrhea has not so far been found to be a universally satisfactory or successful undertaking. Most mild cases are relieved by hygienic and medical means. Those not so relieved eventually become candidates for surgical treatment. I think all will agree that this treatment has been notoriously ineffective in a very considerable proportion of cases.

From time to time during the past one hundred years many new procedures and treatments have been proposed. Probably most of these have added something to our resources, but no method has fulfilled the expectation of its originator. The purpose of this paper is to briefly review the subject and give such evidence as I can of the value of an operation devised by Cleland, of Toronto, and reported by him in 1923.

Dysmenorrhea is often associated with pelvic pathology, particularly with pelvic inflammation, myoma, retrodisplacement of the uterus, and ureteral stricture. Holden[1] analyzed 1,000 patients in the Johns Hopkins Hospital gynecological service and found that 47 per cent were complicated by dysmenorrhea. Treatment of the associated pathology may or may not relieve the dysmenorrhea. This is not the type of case I am now considering, but the class known as primary, or essential dysmenorrhea.

Margaret Sturgis,[2] in 1923, studied 2,077 employed women, and reported 306, 14.7 per cent, as suffering pain with periods, but only 44, 2.2 per cent, had severe handicap. Elizabeth Van Duyne[3] studied 3,077 students at Goucher College and found that in the period from 1900 to 1907 the severe handicap class was 7.1 per cent. During the period 1923-24 this was reduced to 3 per cent. This great reduction was attributed to more general participation in athletics, and systematic physical training.

Pain with periods usually begins several years after the first appearance of the menstrual periods, but in some cases the first and subsequent periods are extremely painful. Watkins[4] believed this occurs only in cases of infantile uterus.

ETIOLOGY

We do not know what causes dysmenorrhea, though the literature abounds with theories which I shall not attempt to enumerate. Doederlein[5] observed that the mucous membrane of the cervix of patients who suffer with dysmenorrhea was more sensitive at all times. He believes that the repression of sex is an element in the nervous condition, and cites in support of this theory the frequent improvement after marriage. It is generally agreed

*Read before the Norfolk County Medical Society, June, 1929.

that there is a deficient development and an abnormal nervous system.

Treatment

The prophylactic treatment is reasonably effective. This consists of intelligent hygiene of living, particularly regarding exercises, and general attention to recognized rules of health. Boarding schools have been in the past prolific producers of dysmenorrhea. The mental attitude of the patient is important. The first mistake is usually made when the mother or doctor advises the girl with the first period to remain in bed. She should be told earlier that the period will appear, but that it is a normal occurrence and should not interfere with usual habits of life. All of the endocrine products, including ovarian extract, pituitary, thyroid and suprarenal, have been recommended as a cure. Probably all have been helpful. In those cases in young girls in which hypothyroidism has been demonstrated, thyroid has at times given spectacular results. Hertzler,[6] who lives in a goiter belt, has seen great benefit from the use of the iodides. He believes that any local treatment is unnecessary and useless. Electricity has been used with benefit, and we look for more help from this in the future. A large number of drugs have been recommended. Opium will relieve the pain, and most severe cases have resorted to it.

Operative Treatment

De Weiss, in 1826, dilated the cervix with metal bougies and reported good results. Simpson,[7] in 1843, split the cervix. Dudley,[8] in 1891, described his operation which consisted in splitting the posterior lip and suturing in such a way as to widen the canal. This operation was rather widely used. The Pozzi[9] operation was another cervix splitting method. This was described in 1909. None of these incised the internal os. Heyward Smith,[10] *Lancet*, 1890, recommended dilating to 12 Hegar, and making bilateral incision of the internal os. A stem pessary was used for five days. Watkins,[4] in 1914, reported 25 per cent cures with the stem pessary. Cleland,[10] of Toronto, in 1923, described his method, the object of which is to leave the os as it should be normally after labor. The cervix is dilated as far as possible with graduated Hegar dilators. The internal os is then incised on either side with a blunt pointed bistoury until the cervix will admit a 15 Hegar. The uterus and cervix is then packed with iodoform gauze, which is allowed to remain eight days. He believed that, no matter what the cause, the trouble is in the musculo-fibrous band at the internal os. He reported using this method 230 times, and was able to follow 175 cases. Of these 138 were completely cured or markedly relieved. Twenty-nine cases had partial relief. There was no improvement in eight cases. Two of these were subsequently relieved by making a full incision, which for some reason had not been done at first.

I have used this method a number of times in severe cases since this work was reported, and have selected four cases for this report which were particularly resistant to other forms of treatment.

My *first case* was a patient about twenty years old on whom I had used practically all drugs usually recommended, and had also done a "D & C" and suspension of a retrodisplaced uterus without any benefit more than possibly one month. She required morphine, gr. ¾, to give any relief. I did not have a Hegar dilator at that time, but used the French scale sounds. The internal os was cut to admit 19 F. This gave entire relief for about one year, when the trouble recurred. This patient has never been so bad as before, and so far has not consented to have the second incision made.

Case 2.—Age twenty-six; married one year. Periods began at age thirteen, duration five days, scant flow. Pain began one year after periods first appeared. The period pain began just before or as the flow started and was not relieved by freer flow. Pain was intense and continued twenty-four hours. The pain was described as a dull ache in addition to severe cramps which were intermittent. The suffering was much like that experienced in painful first stage of labor. Opiates were always required during period. Examination showed a young woman, rather pale, nervous, and apparently in sub-normal health. The uterus was rather small, low in pelvis, and in mid position. There was a small erosion of the cervix.

Previous treatment: This patient had had the usual medical and endocrine products. The appendix had been removed, the cervix dilated, and stem pessary inserted. No relief followed this operation. As this patient had more pain on the right side, which the appen-

dix operation had not relieved, I thought it best to investigate the ureter, which was done before giving any anesthetic. A 3 1/3 bulb was passed into the right ureter. There was a definite hang in the pelvic portion. The patient said this was the same location as the continuous pain, which was worse at periods. The cervix could only be dilated to 8 Hegar, but the internal os was incised to admit a 14. The packing was placed in the usual way. This was done one year ago and the patient, when last heard from several months ago, was free from pain.

Case 3. — Age twenty-nine; occupation teacher. Periods began at twelve years, duration five days, with clots. Very severe pain first two days, causing her to lose two days from school, and requiring opiates. This patient had had all of the treatments without any help. There was a history of several attacks of appendicitis. The appendix was removed at time of cervix operation, which was done in March, 1928. The usual Cleland operation was done, and the relief has been entirely satisfactory.

Case 4.—Age twenty-six; married five years; no children. Pain extremely severe the first day, requiring rest in bed and opiates. Operated June 14, 1927. Cervix dilated to 10. Considerable endometrial tissue removed with curette. Internal os incised to 15, and packed. Relief has been satisfactory.

This operation has been done for *only one patient* who has had, so far as I know, *no relief*. This is probably the most interesting and instructive case I have treated. I saw this patient first in August, 1928. She was referred to me by Dr. J. W. D. Haynes. Patient, age twenty-five years, married, one child—age nine months—normal labor. The periods began at sixteen, and dysmenorrhea developed soon afterward. Several months after labor, periods returned with severe pain, which had increased in intensity since, and for previous two months had been most distressing, requiring opiates or an anesthetic to relieve. The menstrual history was 16—30, irregular, three day duration. Typical severe cramps in lower abdomen. Cramps were relieved after flow was well established, which did not occur for many hours after flow started. A severe pain in top of head accompanied pelvic pain.

Patient was over-weight; blood pressure 140/90. Pelvic examination showed uterus normal size. Fundus retrodisplaced, but could be brought up. Adnexa normal. Cervix—bilateral laceration with erosion. Urine—some pus cells, highly concentrated; albumin 1 plus. The cervical erosion was treated by cautery. Patient had appendectomy four years ago, and had had four or five cervical dilatations, one of these having been done since labor. The usual medicines and biological products had been used. The evidence pointed so strongly to a nervous condition, which would probably not be helped by local treatment, that I advised her doctor to have her consult a neurologist. Dr. F. H. Redwood admitted her to the hospital for study. He found no free HCl in gastric secretion; metabolic rate plus 4; blood calcium 9.5; no evidences of cerebral lesion. He believed the condition probably due to pituitary disturbance, and gave pituitary extract and advice as to management. The diagnosis was hysteria with endocrinopathy.

On October 10th, Dr. Haynes wrote that the patient was no better, and had had the worst time with her period she had ever had, and said "she must get some relief in some way or these spells will kill her." During this time another "D & C" had been done, and a stem pessary used. I told him to bring her back. After consultation with all medical attendants, I decided to investigate the uterus under anesthesia and correct the retrodisplacement. The cervix was open to 12 Hegar; the internal os was incised sufficiently to admit a 15 sound, and packed. Curette showed hyperplasia of endometrium. The retrodisplacement was corrected by round ligament suspension. Again the patient went home happy. A letter from her doctor several months afterwards says she has had no improvement. It is possible that we have overlooked some pelvic pathology, as urethral stricture. I would certainly investigate this if I had the opportunity, which under the circumstances is not likely. I have not been able to get her back again. It is possible that diathermy might help, but most likely she needs treatment in a sanitarium where she can be advantageously managed, at least at the time of her period.

My experience with the Cleland operation is too small to draw conclusions, but if added to the contributions of others, a sufficiently re-

XUM

liable foundation may be constructed on which to establish the truth about it. My own impression is that it gives relief in most cases of severe obstructive dysmenorrhea, particularly those not relieved by other means. It cannot be expected to cure well established habit neuroses unless suitable institutional management can be provided.

BIBLIOGRAPHY.

1. Abnormal Pelvic Conditions (Holden): *Surgery, Gynecology & Obstetrics*, Vol. 4; 606.
2. Dysmenorrhea Occurring in Women Employed in Large Department Stores (Sturgis): *Jour. Industrial Hygiene*, June, 1923; 53.
3. Dysmenorrhea (Eliz. Van Duyne): *Amer. Jour. Obst. & Gynec.*, 9:234.
4. Infantile Type of Uterus with Dysmenorrhea (Watkins): *Surgery, Gynecology and Obstetrics*, Vol. 17: 469.
5. Dysmenorrhea Essentalis (Doederlein): *S., G. & O.*, Vol. 19: 165.
6. Relation of Dysmenorrhea to Interstitial Thyrotoxicosis (Hertzler): *Amer. Jour. Obstetrics & Gynec.*, Vol. 9: 783.
7. Simpson: *Medical Times & Gazette*, February and March, 1859.
8. Sims: Clinical Notes on Uterine Surgery, N. Y., 1873, page 153.
9. Pozzi: Malformation of Cervix Uteri, *S., G. & O.*, Vol. 9: 111.
10. Cleland: Method of Treatment of Severe Types of Dysmenorrhea, With Report of Results in 230 Cases, *Amer. Jour. Obst. & Gynec.*, Vol. 8: 337.
11. Miller: Dysmenorrhea, *Amer. Jour. Obstet. & Gynec.*, 9:524.
12. Practical Management of Dysmenorrhea (Meaker): *Boston Medical and Surgical Journal*, 188:1000.
13. Treatment of Primary, or Spasmodic Dysmenorrhea (Blacker): *Lancet*, Vol. 1, 1923; page 814.
14. Benzyl Succinate in Dysmenorrhea (Mundell): *S., G. & O.*, Vol. 35:652.
15. Endocrines in Treatment of Dysmenorrhea (Culbertson): *Med. Clinics of North America*, July, 1921, page 257.
16. Treatment of Dysmenorrhea (Stacy): *Med. Cl. N. A.*, September, 1921: 473.
17. Anteflexion of Cervix and Spasm of Uterine Ligaments in Dysmenorrhea (Reynolds): *S., G. & O.*, Vol. 13, page 17.
18. Collective Review of Dysmenorrhea (Bessesen): *International Abstracts of Surg., S., G. & O.*, Vol. 38:291.
19. Dudley's Operation; Review of 73 Cases (Brickner): *S., G. & O.*, 13; pages 510 and 728.
20. Ovarian Residue (Graves): *S., G. & O.*, 29:573.
21. Radium (Miller): *S., G. & O.*, 26:495.

Medical Arts Building.

'Tis friends who make this desert world,
To blossom as the rose,
Strew flowers o'er our rugged path
Pour sunshine o'er our woes.

—*Selected.*

ACUTE ABDOMINAL PAIN.*

By W. H. WALLINGFORD, M. D., Princeton, W. Va.
Princeton Hospital.

In 90 per cent of all disease pain is a prominent symptom at some point in its course. Pain is by far the most prominent symptom in all abdominal disease. It is the thing most dreaded by the patient and the thing more than any other that will cause him to seek medical aid. Its intensity, location, radiation, persistency and relation to other symptoms will often alone point to a correct diagnosis. The cessation of pain in abdominal disease is always welcomed by the patient, but, instead of being a favorable omen, it often indicates a grave prognosis. Pain is the most valuable sign to the abdominal surgeon, and, given but one symptom upon which to make a diagnosis, he would invariably select pain. Pain in the abdomen does not always mean abdominal disease, but, on the other hand, abdominal disease almost invariably means pain. In fact, a diagnosis of any acute abdominal condition with no pain is always to be regarded with suspicion.

In making a diagnosis of any acute abdominal disease the two paramount conditions necessary for a correct diagnosis are a painstaking history and a thorough physical examination. If confirmatory evidence is needed, the laboratory, X-ray and cystoscope will often give valuable aid. In case a diagnosis cannot be positively made, an exploratory laparotomy should be performed rather than spend too great a time in trying to make a sure diagnosis. The longer operation is delayed in the acute abdomen the greater the danger of the patient not recovering. Owing to the fact that all abdominal pain does not mean abdominal disease, patients with abdominal pain are occasionally subjected to operations where no pathological condition is found in the abdomen.

To properly interpret abdominal pain as a symptom, a brief review of the nerve supply of the abdominal wall will be of material aid. The abdominal parietes are supplied by the lower 6th intercostal nerves, both anterior and posterior branches, and terminate in the recti muscles on each side, and give sensation to the mid-front of the abdomen. The hypogastric and inguinal regions are supplied by the last dorsal, the ileo-inguinal and ileo-hypogastric nerves. The posterior wall of the abdomen is

*Delivered before a meeting of the Clinch Valley, Virginia, and Mercer County Medical Societies, at Bluefield, W. Va., May 9, 1929.

supplied from the lumbar and sacral plexuses. The pneumogastric nerve runs along each side of the esophagus, the right branch going to the posterior wall of the stomach, helping to form the solar plexus, and the left to the anterior wall. The sympathetic enters the abdomen below the diaphragm and forms four lumbar and four sacral nerves, ending in the coccygeal ganglia. The phrenics from the 4th cervical communicate with the solar and hepatic plexuses and thus have visceral connections. The nerve supply of the viscera and visceral peritoneum is derived from the various sympathetic plexuses, while the parietal peritoneum is supplied directly from the spinal nerves and the phrenics. The spinal nerves contain a great many more sensory nerves than the sympathetic. Therefore, the parietal peritoneum is very sensitive to pain, while the viscera and the visceral peritoneum are not sensitive or very slightly so.

Acute abdominal pain may be divided into pain from conditions in the abdominal wall, pain from conditions within the abdomen itself and pain due to extra-abdominal conditions.

Erysipelas of the abdominal wall produces sometimes rather acute burning pain. The diagnosis is the same as for the same condition in any other part of the body and is so characteristic that the condition is easily recognized.

Neuralgias of the abdominal wall cause very acute pain in the abdomen and may simulate intra-abdominal conditions. This is accompanied by tenderness that is increased by pinching the muscles between the fingers and is relieved by deep pressure, thus differentiating it from peritonitis which is just the opposite.

Abscess of the abdominal wall may be confused with abdominal conditions. The symptoms of heat, redness, swelling, local tenderness and fever, not accompanied by vomiting, usually point to the correct diagnosis.

Hernia involves both the abdominal wall and the viscera. It does not cause acute pain unless it becomes strangulated. It then becomes an acute surgical condition demanding immediate operation. You have a history of hernia that fails to be reduced accompanied by all the symptoms of intestinal obstructions. Delays are extremely dangerous but early operation before gangrene or peritonitis develops offers good chance for recovery. In these cases a thorough inspection of the abdomen is important. The writer was called to see a female patient several years ago and the family physician had failed to discover the cause of her abdominal pain because the bed clothing had not been removed low enough on her abdomen to reveal a strangulated hernia which was present.

Occasionally severe pain is complained of in the abdomen that may or may not be accompanied by any great gastro-intestinal disturbance. Oftentimes there is considerable fever and the diagnosis may be obscure. In a day or two the characteristic blebs of herpes zoster clear up the situation.

Inguinal adenitis occasionally causes rather acute pain about the lower abdomen. The history, absence of impulse on coughing and physical examination differentiate this condition from femoral hernia, the condition with which it may occasionally become confused.

Tumors of the abdominal wall only cause acute pain when their growth is rapid or when they incorporate nerve fibers within themselves.

Appendicitis is probably the most common cause of acute pain in the intra-abdominal conditions. The pain in appendicitis at first is acute and general and is generally greatest around the umbilicus due to the fact that the appendix receives its nerve supply from the same source as the small intestines. Pain is followed by vomiting, fever, rigidity of the right rectus and tenderness over McBurney's point. A leucocytosis is present. The late John B. Murphy, of Chicago, claimed that if pain was not the first symptom in an intra-abdominal condition the condition was not appendicitis. A rectal examination should be made in all doubtful cases of appendicitis. This must be differentiated from perforated gastric or duodenal ulcer. The rupture of a gastric or duodenal ulcer produces probably the most excruciating pain of any intra-abdominal condition. The pain comes on suddenly, is very severe, the rigidity very great and you find the characteristic board-like abdomen. Vomiting is severe and shock and collapse oftentimes intervene. Owing to the seeping of the bowel contents into the right iliac fossa, pain and tenderness is elicited later in the region of the appendix. In perforated ulcer, a previous history of digestive disturbance is of little value as oftentimes perforation is the first symptom of ulcer.

XUM

In acute gall-bladder disease usually there is a history of digestive disturbance, oftentimes persistent and serious. The pain in an attack is acute and is felt in the epigastrium and along the border of the right ribs and to the right shoulder, occasionally to the left. A stone in the common duct produces the most excruciating pain. The presence of jaundice may or may not be apparent, and of itself is of little diagnostic value. An X-ray will often give valuable aid in the diagnosis in this condition. Hepatitis, abscess, cancer and syphilis of the liver also cause acute abdominal pain.

Cancer of the abdominal viscera does not produce acute pain at first but in the later stages the pain is severe. The presence of a tumor in the abdomen with the characteristic symptoms of carcinoma, loss of weight, strength, emaciation, anemia and cachexia usually is sufficient for a diagnosis. The X-ray is often a valuable aid in this condition. Intestinal obstruction is often a fatal termination.

Gunshot wounds of the abdomen cause acute pain and require quick diagnostic ability as to the amount of damage done. If there is a doubt as to whether the wound has penetrated the abdominal viscera, but little time should be lost and an exploratory laparotomy should be performed. If the viscera are not injured, the patient's chances of recovery have been jeopardized very little, if any, while, on the other hand, if the viscera have been punctured, too great delay to determine the exact condition may mean the difference between recovery and death.

Rupture of the abdominal viscera from external violence causes acute lancinating pains in the abdomen at the time of the injury but oftentimes it soon passes off and the patient may not again suffer acute pain until some complication develops. The hollow viscera are the most likely to be ruptured, especially if distended, thus the stomach just after a meal, the bladder while full, and the kidney are probably the most common viscera ruptured, although any viscera is liable to this accident.

A sixteen year old boy several years ago was brought to the Princeton Hospital. He had complained of intermittent pain in his abdomen for thirty-six hours. His temperature was 102, pulse 120, respiration 24. His abdomen was distended considerably. Marked tenderness was elicited all over his abdomen but was greatest over McBurney's point. However, he was markedly pale and a blood count showed a deficiency of red cells. A probable diagnosis was made of a ruptured appendix with peritonitis. The abdomen was opened and found full of blood. The spleen had an extremely bad stellate laceration. He at first denied any injury until a neighbor stated that she saw him wrestling with another boy and saw the other boy fall down upon his abdomen with his knees. The patient then admitted this fact but stated that while he suffered severely for a few minutes his pain then ceased and had no further pain for thirty-six hours.

Intestinal obstruction is probably the most dreaded condition within the abdomen with which the physician or surgeon has to deal. In this condition the general practitioner is the man of the hour. His ability to properly diagnose and promptly advise surgical interference early oftentimes spells success or failure. It is well for the family physician to keep in mind in intestinal obstruction the old adage, "Let not the sun rise nor set on a case of intestinal obstruction without operation." The most common types of intestinal obstruction are intussusceptions, volvulus, kinks or bands around the intestines, carcinoma or tumors, fecal impaction and mesenteric thrombosis or embolism. The pain is severe, vomiting is persistent, becoming stercoraceous, the abdomen is distended and there is failure of bowel evacuation of fecal contents or gas. Operation should be done promptly, oftentimes the two stage operation being advisable.

Mesenteric thrombosis and embolism occur from the blocking or cutting off the blood supply in the mesenteric blood vessels. The pain is severe and, if due to blocking of the superior mesentery, occurs above the umbilicus; if in the smaller mesentery, below the umbilicus. The onset of embolism is sudden, but the onset of thrombosis is more slow, with all the signs of obstruction in both. This condition is usually found in patients beyond fifty and usually associated with arteriosclerosis.

Dysentery causes griping pain in the abdomen. The pain is paroxysmal in character, accompanied by small, frequent, mucous, blood-tinged stools.

Peritonitis is usually secondary to some other condition and is one of the most distressing conditions in the abdomen. There is severe pain, distention, nausea, and vomiting, and tenderness increased on deep pressure, and the abdomen has a doughy feel. Pain is

absent upon pinching the abdominal muscles.

A diverticulitis causes severe pain in the abdomen, but the condition is rarely diagnosed prior to operation.

Caries of the vertebrae, spinal tumors and osteomyelitis of the vertebrae are other conditions that sometimes cause acute abdominal pain.

Intestinal colic is one of the most common causes of acute abdominal pain. It is seen most often in boys during the green apple or cider season. The pain is severe and griping and comes on suddenly, but usually there is no disturbance of the pulse or temperature. There is usually not much rigidity except during a paroxysm of pain. A dose of castor oil followed by copious evacuation of the bowels usually cures the case. If the pain persists beyond two or three hours after complete evacuation of the bowels some other condition is usually present.

Since the advent of typhoid vaccine, typhoid fever is fast becoming obsolete, but mention should be made of typhoid as one of the conditions causing acute pain in the abdomen. Sometimes the pain is severe at the beginning, and the onset may be rather sudden, although it is occasionally confused with appendicitis. A careful history with the aid of the laboratory will render this mistake rare. Perforation late in the disease causes acute sudden pain in the right iliac fossa with collapse, and prompt surgery offers the only hope of recovery. Until a few years ago this disease was one of the most common abdominal diseases. Of late years typhoid fever's place has been usurped by abdominal influenza. This disease is accompanied by acute pain in the abdomen, vomiting, oftentimes severe, and tenderness and oftentimes muscular rigidity. It has been mistaken for appendicitis and appendectomies have beeen performed. Again, careful history and thorough physical examination will render this mistake rare.

We have a number of conditions causing acute pain in the abdomen arising from organs peculiar to the female sex. These conditions may be divided into (1) those conditions arising in the womb, and (2) those arising in the adnexa. Acute polyhydramnios is a rare but distressing condition causing acute abdominal pain. Quite a number of pregnancies have quite an excess of amniotic fluid and oftentimes it causes only a feeling of distress, but in those cases in which the amniotic fluid is greatly increased *rapidly* there is acute pain and the patient presents a picture much like a heart case, with the abdomen greatly swollen, shortness of breath, feet swollen, and there is inability to palpate the fetal parts. Rest in bed and delivery relieve this condition.

An hydatiform mole, because of its rapid growth, often causes severe pain, especially if hemorrhage takes place in some of the attachments of the mole to the uterine wall. The woman usually considers herself pregnant but has a great deal of pain. If the abdomen is watched, the uterus will be seen to increase in size much too rapidly for a normal pregnancy. Carcinoma may be a sequella of this condition.

Rupture of the uterus causes severe lancinating pain and occurs sometimes in severe prolonged labor, especially following Cesarean sections and from external violence. The use of large doses of pituitrin has been known to cause rupture of the uterus during labor. Prompt surgical interference should be resorted to in such cases. Spontaneous rupture occasionally occurs in one horn of a bicornate uterus and is analagous to the rupture of the tube in tubal pregnancy. A retroverted uterus in the twelfth to sixteenth week of pregnancy may become incarcerated and cause severe pain.

In conditions in the adnexa, rupture of an extra-uterine pregnancy causes the greatest amount of pain. This pain usually comes on suddenly, is very severe and greatest in the affected side, and the patient may faint or feel fainty. There may be considerable abdominal tenderness. Irregular menstruation plus the pain and the finding of a mass in one of the tubes that is *very tender* usually completes the diagnosis. This condition should be differentiated from salpingitis. It also produces severe pain but is accompanied by fever and chills with rapid pulse and all the signs of an acute infection. The history of gonorrheal infection or recent abortion also is of value in making a diagnosis of salpingitis.

A patient was brought to the Princeton Hospital three or four years ago who had called three physicians in two days—one after the other. She complained of pain in her lower abdomen. At the time of the visit of each physician she was in a typical hysterical convulsion and assumed the characteristic opisthotonos position. The first two physicians each

XUM

gave her a "hypo." of ¼ gr. morphine and told her she was just nervous. This morphine would relieve her for two or three hours, then she would complain as before. The third physician made a vaginal examination and found a mass about the size of a quart cup in her left side. At operation a gangrenous ovarian cyst was removed that had a twisted pedicle. This case shows that a patient may have a typical hysterical attack and still be suffering from a severe pathological condition.

Of the conditions external to the abdomen that cause acute abdominal pain, probably chest diseases are the most common. Under this heading we find pneumonia, diaphragmatic pleurisy, diaphragmatic abscess, abscess of the lung, hemorrhage into the finer bronchioles of lower lobes of the lungs, fractured ribs involving the pleura or lungs, and artificial pneumothorax, all causing acute abdominal pain.

In pneumonia, especially in children, it is not at all uncommon to find cases of lower lobe pneumonia simulating appendicitis or gall-bladder disease, and the chest is entirely overlooked. Quite a number of surgeons of prominence have operated upon patients for appendicitis to find it normal and then find the patient with a consolidated lower right lung next day. A good rule to follow to avoid this mistake is to give the chest in all acute abdomens the same careful examination as is given the abdomen. It should not be lost sight of that these two conditions may be present at the same time. A blood count may not aid, but it should be borne in mind that a white count of more than 20,000 cells is rare in appendicitis. A rectal examination may confirm in a doubtful case the presence of appendicitis. Oftentimes X-ray of the lungs will give valuable aid in these cases. Pleurisy causes acute pain in the abdomen and if the chest is examined will rarely be mistaken for intra-abdominal disease.

Hemorrhage into the finer bronchioles of the lower lobes of the lungs causes acute pain in the abdomen, but, as it is not usually accompanied by any other abdominal symptoms it is not commonly mistaken for intra-abdominal disease.

Artificial pneumothorax of the lower part of the lungs causes pain in the abdomen. This occurs at the time the pneumothorax is performed and thus the cause of the pain is obvious.

The next most common condition under this heading is some kidney disease. In these conditions the laboratory, cystoscope and X-ray are of paramount importance as an aid to correct diagnosis. Kidney or ureteral pain is of two kinds, inflammatory, and non-inflammatory. The pain in the inflammatory type is aching in character and is increased by palpation and pressure, and is oftentimes increased by deep breathing. In the non-inflammatory type the pain is more severe and paroxysmal in character and disappears oftentimes very suddenly. Pain in the kidney involvement is felt in the region of the kidney and is referred to the lower iliac or suprapubic region. In ureteral involvement the pain is usually referred to the penis, scrotum and perineum.

Acute pain is present in from 75 to 80 per cent of pyelitis. It radiates from the back to the thigh and perineum, sometimes to the epigastrium. The pain in renal calculus is paroxysmal when the stone is too large to enter the ureter, and constant if the stone becomes lodged or if infection is present. The pain radiates to the crest of the ilium and anterior abdominal wall, groin, and testicle. Lane-Roberts divided pyelitis of pregnancy into three types, (1) the renal type where the pain is complained of in the back and loin, and the patient has the symptoms of infection but complains rarely of any kidney disturbance; (2) the abdominal type where the pain is very severe in the abdomen, with distention, tenderness, rigidity, nausea and vomiting. It is often hard to differentiate this type from appendicitis, cholecystitis or intestinal obstruction; (3) the generalized type where the pain in the abdomen is slight and the symptoms and signs are not localized in the abdomen.

Dietl's crisis oftentimes is confused with appendicitis and other abdominal conditions. Dr. Kelly claimed a good method of determining the question between appendiceal pain and that of a movable kidney was to try to produce the same pain in the kidney by injecting its pelvis and at the same time measuring its contents.

Acute pain is found in the terminal stages of some cases of tuberculosis of the kidneys due to blocking of the ureters.

Tumors of the kidneys, ureter or bladder

cause acute pain when they cause obstruction, and hemorrhage is an early symptom.

Perinephritis causes pain over the kidney region with tenderness and edema. This with the constitutional symptoms points readily to the condition.

Injuries to the kidneys may cause acute abdominal pain accompanied by tenderness and dullness and oftentimes discoloration. Blood is found in the urine, and, if the injury is severe, shock is oftentimes marked.

Retention of urine causes severe pain in the abdomen, and, while attention to the outflow of urine with a physical examination will readily demonstrate the condition, it has been mistaken for tumors, pregnancy, abscess, etc. Catheterization of the patient immediately relieves the condition, but in cases of stricture, enlarged prostate or other conditions blocking the outlet, this may be impossible and may require surgical intervention to relieve. A female patient was brought before a student body in one of our large hospitals several years ago to demonstrate a threatened abortion in a six months' pregnancy. The nurse, carrying out routine orders, catheterized her just before she wheeled her before the class. A physical examination revealed that her pregnancy had disappeared.

Acute pancreatitis is one of the most fatal diseases causing abdominal pain. The patient is usually beyond forty but occasionally younger. The patient is suddenly stricken with severe pain that is almost impossible at times to relieve, even with large doses of morphine. The vomiting is severe and persistent, resembling intestinal obstruction, but is never fecal. Emaciation takes place rapidly and collapse soon ensues. The pulse is usually rapid, but, if collapse does not occur, it may remain slow and strong. The temperature is usually not high. This is regarded by most physicians as a surgical condition. Deaver reports that medical treatment shows a mortality of from 80 to 90 per cent while those cases treated surgically showed a mortality of from 38 to 83 per cent.

The pain of gastric crisis resembles oftentimes gall-bladder disease, ruptured ulcer, or appendicitis. At times gastric crisis is seen as the initial symptom that the patient complains of; in these cases mistakes have been made and the patient submitted to operation. The previous history, examination of pupils, station and knee jerk, a blood Wassermann—if negative, a spinal one—will usually reveal the true condition.

Pericarditis resembles gall-bladder disease at times as to location of pain, and is accompanied by vomiting, tenderness and some rigidity in the epigastrium and over the gall-bladder. In a few hours the characteristic friction rub accompanying the heart beat reveals the true condition.

Angina pectoris comes on usually after forty, most often about sixty. The pain is vice-like under the sternum, radiates to the left shoulder and down the left arm. In some cases it radiates to the epigastrium and the gall-bladder region, with a resistance of the abdominal muscles and tenderness. It is then confused with indigestion and gall-stones. The patient may have a number of attacks and may die suddenly in one of them. Many of the distinguished individuals who are reported in the press throughout the country as dying of "acute indigestion" no doubt die of angina pectoris.

Gauss described a condition called angina abdominis in which the symptoms are abdominal pain that is localized around the umbilicus. Ortner states that, "The pathological basis of the pain appears to be an arteriosclerotic narrowing of the arterioles supplying the intestines which forces the bowel to work under stress, thereby giving rise to visceral pain."

Clinton gives subcostal neuritis as a cause of acute abdominal pain due to the repeated trauma of the 11th and 12th intercostal nerves being pinched between the lower rib and the crest of the ilium in short-waisted individuals and in those having unusually long 11th and 12th ribs. The pain is described as tooth-like. The cure is to resect about one inch of the end of the rib with the nerve.

Brennan claims that tonsillitis and "throat infections" cause acute abdominal pain that is often severe, intermittent and paroxysmal, and referred to the umbilicus, and sounds a warning that in all "throat infections," instead of excluding appendicitis, it is to be expected as a complication or sequel. He does not, however, explain the nerve connection that produces the abdominal pain.

The pain of lead poisoning may simulate acute abdominal diseases, but history of the occupation of the patient, the blue line along the gums, anemia, the characteristic wrist-drop, together with a careful examination, will show the real cause of the condition.

XUM

The pain of hysteria can simulate any acute abdominal condition. Hysterical patients who have been around hospitals often and thus learn the symptoms of various diseases, can "throw" attacks of most any disease. It should not be lost sight of, however, that these patients may have a typical hysterical seizure and still be suffering from severe pathological condition.

Thyrotoxicosis may produce, in rare cases, pain, vomiting and diarrhea, that will give rise to a suspicion it is some intra-abdominal condition. The symptom of goitre and the history will lead to a satisfactory explanation.

It has been said that uremia can produce pain that will simulate any abdominal condition. With our modern methods of diagnosis, this condition is rarely mistaken now for any operative condition.

Reisman reports a case in a girl who had severe pain in the right hypochondrium with a leucocytosis, fever and vomiting, that was diagnosed appendicitis, and she was prepared for operation. Later evidence of diabetic acidosis was found. In getting her history it was discovered she was a diabetic and had temporarily run out of insulin. A dose was administered and she was promptly relieved.

MEDICAL ETHICS.*

By JOHN W. PRESTON, M. D., Roanoke, Va.

It is with some trepidation that I undertake to discuss the subject assigned me, even in the briefest way; for what medical man is there who fails to look askance upon the mention of ethics, or who, upon their mention, fails to have aroused within him gloomy forebodings of a rehash of a time-worn subject? Furthermore, may not the whole subject be at once disposed of as an embodiment of the golden rule, and by a reminder that example is much more worth while than precept?

It is a truism that a physician who is of a representative type needs but few rules of conduct, and, conversely, that the practitioner with whom honor is a secondary consideration will feel bound by none, no matter how elaborate the code.

Granting that these things be so, yet one cannot upon reflection escape the realization that with the multiplicity of changes wrought within recent years in the fabric of government and industry, as well as in the practice of medicine itself, many revolutionary things have happened which are of vital interest as relates one physician to another, and likewise touching the relation of the practitioner to the public.

Employment of Physicians by Societies and Organizations

Looming large on the horizon today are such questions as the employment of physicians by societies, organized for the manifest purpose of unduly cheapening the practice of medicine; insurance and fraternal organizations employing physicians to do family practice in a wholesale way; corporations composed of laymen employing physicians and advertising in a commercial way to attract patronage; last, but not least, the experiment of state medicine which threatens to demoralize the practice of medicine in parts of Europe, and which some think is in an insidious way creeping into this country. It is through agencies such as these that here and there physicians are yielding to the siren voice of quick money obtained with least expenditure of energy, resulting in new and unforeseen problems arising in ethics. We may well pause to consider a few of these.

In so far as organizations of a strictly mercenary nature are concerned, the old rules of ethics may be applied simply and directly. The big problem presented is in such cases as those which fall upon a middle ground with no precedent to guide, such, for instance, as a corporation employing physicians upon salaries, the purpose of the organization being ostensibly to supply medical service to the poor at or near cost, yet making little or no effort to exclude as patients those who are well able to pay a physician a reasonable fee. The question arising in such case is whether a physician who desires to be ethical can affiliate with such an organization, and, likewise, what are the ethics of his relations to other physicians.

The Effort to Reduce the Cost of Sickness

Indirectly related to ethics, and yet a matter in which every medical man should be interested is the commendable experiment which is being made to reduce the cost of hospitalization and medical care in case of the individual who can pay something, yet whose family suffers if he be compelled to pay at the same rate as his more fortunate neighbor. Undoubtedly little more than a nominal fee should be exacted by a physician in rendering service to this class of patients, but how shall it be ad-

*Read before the Southwestern Virginia Medical Society at its meeting in Galax, Va., September 16 and 17, 1929.

justed as relates to hospital fees, and as relates to those who can and ought to pay a better fee?

The Relation of the General Practitioner to Health Departments

May I not also with propriety here speak a word as to the strained relations which occasionally arise between physicians in the employ of health departments and family physicians, all unintentional upon the part of either worker, and most often in the matter of the borderline as between the introduction of the newer methods of prophylaxis, and of vaccine therapy closely related thereto, and nose and throat and chest clinics? Further, is there any basis in fact for the apprehension upon the part of some that from this source state medicine is now finding a beginning and, like a small cloud upon the horizon, portends a storm to come? From the broader view it is evident that among the physicians of the country who are at the head of the various health departments there are differences of opinion as to where the duties of their respective departments end and those of the family physician begin, and that here and there are misunderstandings and a degree of friction, the elimination of which, in the best interests of all concerned, will require broad vision and exercise of tolerance; for no rule, or set of rules, of ethics can be made to apply.

Emphasizing the importance of cooperation and of the use of common sense in relation to ethics as regards the activities of physicians in the employ of health departments, I would digress to say it is just a little difficult to realize at first thought that were it not for the publicity which the health officer can and should give to the newer means of prophylaxis of disease through vaccinations and otherwise, it would in most cases require an indefinite period of time before the public could be convinced of their efficacy, and they could be added to the armamentarium of the practitioner. Furthermore, due credit must be given to Health Boards in the matter of popularizing, by advertising and otherwise, periodic health examinations both in children and adults, to the end that their value may be appreciated, and, as paradoxical as it may seem, eventually add very materially to the physician's income from a source as yet but little developed. Witness in point the effort now being made by the Board of Health of our State to evolve a system whereby the examination of children of pre-school age and school age may be gradually transferred from the domain of a physician employed by school boards to that of the family physician.

Radio and Newspaper Publicity

The advent of the radio has added a new and wholesale approach of medicine to the masses of our people and has brought with it, perhaps as yet unappreciated, opportunities, privileges and obligations—opportunities and privileges, among others, of awakening the interest of all in what scientific medicine has to offer, and of exposing quackery, both within and without the profession. The obligation to educate those who can be interested, as relates to the prevention of disease, to the spread of epidemics, and to health examinations.

Manifestly the health officer can with perfect propriety make use of any method of approach that may seem most helpful to his community, but what are the duties and limitations of the private practitioner? When it comes to the matter of the name of a private practitioner appearing in the columns of newspapers or upon the broadcasting program, no matter how good his intentions, his position is precarious; for there are those who are apt to criticize. Like Caesar's wife, he must be above suspicion. Yet occasionally conditions do arise which render it advisable if not imperative that representatives of the profession take part in a public way. Manifestly, however, in the event of such occasion arising, it is most desirable that those taking part should be selected by the local medical organization and the procedure be made as impersonal as possible. Indeed, it may be a question worthy of consideration as to whether medical organizations, as such, should not be more alert than is their custom and in a proper way supply the public more directly and more freely with such information as it may desire relative to medical activities, and to health matters.

Workers in Institutions and Hospitals

Touching more or less directly the ethical relation of the private practitioner to practitioners working in group clinics and in the larger institutions is an undercurrent of feeling, which undoubtedly exists, that many of these institutions have now grown so large that the human touch is lost both as regards the patient and the physician referring him. As relates to the patient, it cannot be denied

XUM

but that too often in the well meant efforts of specialists to leave undone no scientific method of procedure, the patient is referred from one department to another, each making a charge for service, with the result that the limited finances of the patient are sometimes overlooked and he returns to his family physician for a follow-up with his resources depleted to such an extent that the real burden falls upon him, the family physician, who, knowing all the circumstances, is led to wonder if either he or his patient has been treated exactly fairly. There are so many angles to this phase of present day institutional practice that one wishes that time would permit a freer discussion.

Even yet, though happily rarely, one encounters the physician imbued with sufficient ego, tinctured undoubtedly with avarice, who makes a practice of exacting from his patient "all the traffic will bear," and who endeavors to justify such practice from an ethical standpoint by the unwarranted feeling upon his part that exceptional service is being rendered, and that large fees serve the useful purpose of impressing the patient with the prestige of his physician. I need not remind you that such practices violate the spirit of medical ethics no less than do secret fee-splitting and other like reprehensible practices, and tend to bring into disrepute the whole profession.

The Goal of Medical Ethics

It is with a measure of pride we reflect that, although the profession of medicine follows a code of ethics originating in ancient times, this code was founded upon the basic principles of fair and just dealing man to man, and, building upon it, our profession has developed and broadened until the course of study necessary in mastering it in this modern day is more exacting than that of any other profession. It is through our obligation to these same ethics that the cultural, humanitarian and moral standards must be maintained upon a like high plane.

Having frankly touched upon some of the possible lurking dangers, it is hoped that none will draw the inference that the tendency of modern medicine as a whole is mercenary, or that the newer things in medicine fail to carry with them the altruism of the old. The fact is that progress has been so rapid, it is a wonder there have not been even greater maladjustments. Yet our respective communities look to such organizations as this of ours to bring to light and smooth out any irregularities that may exist; for the broader ethics in medicine mean equally as much the maintenance of a fair and just relation to the individual layman and to the mass of people, as it does one physician to another and to the profession of medicine as a whole.

Shenandoah Life Building.

MEDICAL ETHICS.*

By W. R. CUSHING, M. D., Dublin, Va.

When your secretary notified me that I was expected to take part in this discussion, I wrote him a very sweet note of appreciation and thanks for remembering me, in which I stated that, if present, I would listen with a great deal of interest and pleasure to anything Dr. Preston would say—and I have done so, Dr. Preston—but that I much preferred to remain silent. I received an answer that would be classed as diplomatic, non-committal, you know, and that was the last I knew of it until the programme was received with my name on it. Was that ethical treatment? Was due consideration shown me as an individual, and was due consideration shown you, fellow members of an honorable profession, who will have to listen to what I have to say?

I imagine I can hear a deep breath of relief from you, when you realize that in the discussion of this subject not a disease or a germ will be mentioned—no bacteria or baccilli, no toxins or antitoxins, no sepsis or antisepsis, no hypers or hypos, no reference whatever to leucocytes, lymphocytes, phagocytes or parasites, and last, but not least, no glands. Ethics, pure and simple, and ethics alone will demand our attention.

We find in the dictionaries high flown and long drawn out definitions of a science that treats of the "laws of voluntary action or conduct, thus seeking to determine the nature and extent of moral duty." This science they call ethics, and any infringement upon these laws of moral conduct they call unethical. That is not what we mean by ethics either in general or in particular.

Medical ethics is general good conduct limited to followers of our profession. Outsiders are not expected to know much about it. No man can have freedom of action if he is tied down

*Read at the meeting of the Southwestern Virginia Medical Society, in Galax, Va., September 16-17, 1929.

hard and fast by a set of rules to govern his conduct, and the consequence is that individual members of the profession have given the matter very little consideration, but have gone on, day by day and year by year, using among themselves the ordinary and everyday courtesies and consideration that every well-thinking well-intentioned man would tender to those with whom he comes in contact.

From our point of view, ethics and etiquette are very closely related, and rigid rules for either are absolutely impossible to live up to at all times, owing to the many and varied circumstances under which men are placed. When we consider man in the abstract, what he is, how situated, his make-up, his fallibility, his inborn selfishness, we are not surprised that he falls short at times of a high standard of ethics.

What do *we* (not scientific men busy studying the science of ethics or morals) mean by ethics, and especially medical ethics? I think we mean this: Courtesy, consideration and politeness to our associates—not the cringing politeness of inferiors to superiors, nor the patronizing, condescending politeness of superiors to inferiors, but the freedom and ease that always accompanies the association of equals. Note where this brings us. We unconsciously think of ethics as applying to the higher walks of life—the ministry, the law, medicine, the teaching profession, and a few others. But is that so? There is a standard of ethics applicable to every walk in life. Bankers, corporations, merchants, farmers, manufacturers, laborers, all have a standard of conduct that is ethical for that particular occupation, and without it and without the fact that the rank and file live up to it, this world would be worse than a bedlam.

So, I am sure, we are all agreed that a standard of ethics, meaning by that, courtesy and consideration, unselfishness and a willingness to share, and share alike, both in responsibilities and rewards, is essential in every occupation.

Applying this idea to ourselves, ethical conduct is all important in the medical profession. I am not going to attempt to lay down any well-defined rules as to how a man should conduct himself, even in average circumstances. I could not if I would, and would not if I could. Besides, if I did undertake such a thing, you all may know more about it than I do. To put the whole thing in a small compass, the Highest Authority the world has ever known, on human conduct, once said, "Therefore, all things whatsoever ye would that men should do to you, do ye even so to them," and I am perfectly willing to let it rest at that.

PAPILLARY ADENO-CARCINOMA OF THE KIDNEY.

By BEVERLEY F. ECKLES, M. D., F. A. C. S., Galax, Va.
Galax Hospital.

Statistics concerning primary adeno-carcinoma of the kidney are scanty and unreliable, most of these cases being recorded as hypernephromata.[1] However, a casual glance at recent literature leads to the impression that the rarity of these tumors is more apparent than real. Cabot[2] has recorded two cases, both confirmed by autopsy. Stirling[3] also furnishes a case report, together with a clinical discussion of the subject.

Ewing divides malignant tumors of renal epithelium into two main forms: the papillary adeno-carcinoma and the alveolar carcinoma. He further divides the papillary adeno-carcinoma into two major groups, and one small-sub-group of minor importance: first, those with clear or glassy cells; second, those with granular cells; and, third, malignant tumors arising from simple cyst-adenoma. He states that papillary adeno-carcinoma is much the more frequent of renal growths.

It occurs chiefly in adults, but occasionally in children.

Stirling calls attention to the triad of symptoms indicative of malignant renal tumor—hematuria, pain, and tumor, named in the order of their frequency.

This triad is found in approximately 50 per cent or so of cases but X-ray and pyelography furnish the best diagnostic evidence.

The prognosis for cure is uncertain, as relapse locally or by metastasis is very common and may occur late.[4]

The mortality of the operation is not more than 10 per cent.

Case History: Mrs. R. G., white, age twenty-nine, housewife. Date of examination—September 8, 1928.

Chief Complaint: Nausea, palpitation, a lump in left abdomen.

Past History: Inflammatory rheumatism at age fifteen; lasted for several weeks. Appendectomy about two years ago, and six months later hysterectomy and removal of one ovary.

XUM

Tonsillectomy about five years ago. Numerous decayed teeth have been extracted.

Present Illness: Has never been very strong since operations, but did not notice mass in abdomen until about two weeks ago. Strength and energy poor; considerably underweight. Menstruation ceased after hysterectomy; previously normal and regular.

Physical Examination: The salient features are her undernourished appearance; rapid, forceful heart action with presystolic and systolic apical murmur; a markedly displaced right kidney, and a large lobular mass in the left flank, apparently the left kidney.

Laboratory Examinations: Blood and urine negative. Wassermann negative.

Cystoscopic Examination by Dr. A. I. Dodson: Bladder mucosa normal throughout. Both ureteral orifices normal in location and appearance. Indigo-carmin, given intravenously, was eliminated in five minutes from the right, in ten minutes from the left kidney. Left ureter catheterized without difficulty; specimen collected, and sent to laboratory for examination. Laboratory reported specimen negative.

Patient was taken to X-ray room and pyelogram was made under the fluoroscope. Pyelogram could be identified with mass felt in left lumbar region. Conclusion: Tumor of left kidney.

Pyelogram, by Dr. J. L. Tabb, showed that the tumor was either hypernephroma, or a tumor of the left kidney.

The case was referred to me by Dr. Garnett Nelson, and was admitted to my service at the Memorial Hospital, in Richmond, where operation was done. A left lumbar (Mayo) incision was made and the kidney was removed and sent intact to the pathological laboratory.

The pathologic report by Dr. Chas. Phillips was as follows:

"*Gross description:* The kidney is distorted by a tumor projecting from the middle of its lateral surface, and forms a mass measuring 13x8½x5½ cm., weighing 380 grams.

"The surface is irregularly hemorrhagic, more especially that of the tumor mass, which is smooth and lobulated, 7½ cm. in diameter, rising 2½ cm. above the surface of the kidney. The stump of the ureter is indurated. A milky white fluid is expressed from it. On longitudinal section of kidney the greater part of its substance is found to be occupied by tumor masses ranging from less than 1 to 9 cm. in diameter, soft, grayish white, and solid.

"The pelvis is filled with a tumor mass which is continuous with the mass projecting from the lateral surface. The tumor nowhere has broken through the capsule of the kidney. Renal artery and renal vein, excised close to kidney, are filled with tumor tissue.

"*Microscopic Description:* Tumor masses present a papillary structure of anaplastic columnar epithelium. Desquamation and necrobiotic changes are marked. Renal artery and renal vein are filled with tumor thrombi.

"*Pathologic Diagnosis:* Papillary adenocarcinoma of kidney."

REFERENCES.

1. Ewing, James: Neoplastic Diseases, Ed. 2: Phila., Saunders & Co., 1922, pp. 742-748.
2. Cabot, R: Cabot Case 12373; *Boston M. & S. Journal*, 195; 596-599, September 16, 1926. Cabot Case 13215; *Boston Med. & Surg. Journal*, 196: 880-883, May 26, 1927.
3. Stirling, W. Calhoun: Primary Malignant Papillary Cyst-Andenoma of the Kidney With Fungating Growth in Pelvis: *Journal of Urology*, XVII; 165-178, February, 1927.
4. Keyes, Edward L.: Urology. New York. Appleton. 1928. pp. 360-365.

SIGNIFICANCE OF LARYNGO-TRACHEAL DYSPNEA.*

By ELBYRNE G. GILL, M. D., Roanoke, Va.

Dyspnea is a symptom, not a disease, and it is a symptom of many different conditions. The laryngeal form demands prompt recognition so that life saving measures may be instituted.

Etiology.—Laryngo-tracheal dyspnea may be caused by many conditions, but only the more frequent ones will be mentioned—edema, thick secretions, influenza, tuberculosis, syphilis, neoplasms and aspirated foreign bodies.

Symptomatology.—Restlessness, increasing respiratory rate, stridor, indrawing at the supra-sternal notch and ashy gray pallor are the main symptoms. The appetite is disturbed as the child is too busy getting sufficient air to be interrupted by the taking of food through the mouth.

Diagnosis.—When the obstruction is in the larynx or the cervical trachea, the unsatisfied negative pressure caused by the inspiratory expansion of the thoracic bellows causes indrawing of the soft tissues where they are unsupported by bone or cartilage. The locations of this indrawing are: 1. The supra-sternal

*Read at the meeting of the Southwestern Virginia Medical Society, in Galax, Va., September 16-17, 1929.

notch. 2. The supra-clavicular fossae. 3. Intercostal spaces. 4. The epigastrium. Every practitioner of medicine should be able instantly to recognize obstructive laryngeal dyspnea by the indrawing at the supra-sternal notch. This sign is never present in dyspnea of asthma, pneumonia or other diseases, mediastinal, cardiac or pulmonary, unless laryngeal complications are present. This sign is a danger signal. In addition to this cardinal sign, there are two accompanying signs that are important. One is stridor, and the other is restlessness. The latter means air hunger.

Prognosis.—The mortality is high if the condition is unrecognized, but very low if recognized early and a tracheotomy is performed. Deaths have occurred from the mistake of giving sedatives to a restless child when the restlessness was due to air hunger.

Treatment.—Tracheotomy is the only safe procedure It should be performed early. Never wait for cyanosis to develop, as it does not occur until the child is nearly dead—and not always then.

Case Reports

Case 1.—Age three months; admitted to the hospital March 7, 1929. Was referred by Dr. R. A. Morison. For past six weeks child had been wheezing and had a "croupy" cry on breathing. Enlarged thymus; protein sensitization and foreign body had been suspected.

Physical Examination: Lungs clear and resonant. Heart fast but normal. No rales in chest, or dullness. Child had a barrel-shaped chest. There was moderate indrawing at the supra-sternal notch and rather marked at the epigastrium. Appetite was disturbed; the child was steadily losing weight. Restlessness was a pronounced symptom. Temperature on admission was 100.8 degrees, respiration 36; pulse unable to get.

X-ray of Chest: Both lungs clear and no evidence of a foreign body.

Treatment: This consisted of steam inhalations and change of diet. There was some improvement in the general condition and the breathing was not quite as difficult after a week of this treatment. The patient was discharged March 15, 1929. The parents were advised to continue the same treatment at home. Patient was re-admitted May 29, 1929. Condition was the same, other than that the breathing was more difficult, the chest more barrel-shaped, and restlessness was more pronounced. At this time tracheotomy was done, which resulted in immediate relief of dyspnea. The general condition has steadily improved. The diagnosis of congenital laryngeal stenosis was made by laryngoscopy. The treatment has consisted of laryngeal dilatations at intervals of three weeks.

Case 2.—Patient, age two years, admitted May 20, 1929. Was referred by Dr. J. H. Anderson. Child had not cried aloud since he was four months old. Three weeks before admission, breathing suddenly became very difficult and the family physician, Dr. Anderson, Marytown, West Virginia, placed an intubation tube in the larynx and administered diphtheria antitoxin. The tube was removed but had to be re-introduced. The patient was referred to a pediatrician in Bluefield, and more antitoxin was given. The child was wearing the intubation tube when admitted to the hospital. May 21st, we removed the tube and performed a tracheotomy. Laryngoscopy revealed multiple papillomata of the larynx. The treatment has consisted of excision of the growths at intervals of three weeks.

Case 3.—Patient, age nineteen months, admitted July 16, 1929. Was referred by Dr. John Shackelford. One week prior to admission, patient had a severe coughing and choking spell while eating peanuts. Has had a croupy cough and wheezy breathing since aspirating the peanut.

Physical and X-ray examinations indicated a foreign body in left bronchus. Bronchoscopy was done May 17th. The husk of a peanut was removed from left bronchus. Eight hours later, breathing was difficult. There was indrawing at the supra-sternal notch and epigastrium, but no cyanosis. Tracheotomy was done and the dyspnea was immediately relieved.

References.

Jackson and Coates: Diseases of Nose and Throat.

It was George Horace Lorimer, the man who wrote the immortal "Letters of a Self-Made Merchant to his Son," who said:

"It's good to have money and the things money can buy, but it's good, too, to check up once in a while and make sure you haven't lost the things money can't buy."

XUM

A MICROSCOPICAL STUDY OF A CAUDAL APPENDAGE OF A FOURTEEN MONTHS' OLD CHILD.*

By
J. M. ROBESON, JR., M. S., University, Va.,
Laboratory of Histology and Embryology, Medical School, University of Virginia,
and
A. B. DICKEY, M. D., Prescott, Ark.
Cora Donnell Hospital.

INTRODUCTION

Knowledge concerning human tails remains meager, and microscopical data are given in the case of only one specimen. References to this type of anomaly were made as far back as Pliny, and travellers to Africa, India and Burma have reported seeing natives with tails. These reports have come, in the majority of the cases, from India. The princes of certain provinces in India were supposed to possess tails as a sign of divine favor as well as showing their descent from the monkey-god, Hanuman. These princes were given the name "Pooncheria" or the "long-tailed races of Saurasthra."

Ninety-three cases of human tails have been reported from Europe, and, according to Harrison, five cases have been reported from the United States up to 1900. On account of the popular interest in this anomaly from an evolutionary standpoint, almost everything appended to the sacral or coccygeal region has been called a tail.

Numbers of these caudal appendages do bear a resemblance to the tail of the lower mammals, but undoubtedly the great majority of these so-called tails are not what they seem. Histological study is obviously the only logical and positive method for determining their true nature. In nearly all cases of reported "tails," other anomalies and deformities have been present at the same time. Some of these on record are hypospadia, atresia ani, spina bifida and ectopia viscerum. Sacro-coccygeal tumors of various kinds have also been found in connection with these reported tails. Many of the above are said to result from amniotic adhesions, and such opinion led Schaeffer (1892) to conclude that tails were also the result of amniotic adhesions. However, in the case we have to report, the origin differs from that assumed by Schaeffer.

Bartels (1884) has collected a voluminous body of data on the subject of human tails and classifies them as *soft* and *adherent* tails. He also gives a map showing the geographical distribution which includes the countries of England, France, Turkey, Persia, India, Borneo, Sumatra, Burma, Japan and New Guinea. He reports none from North America, but two hearsay cases from South America. Virchow (1884) published an account of several "soft" tails, with pictures brought back to him by a friend from India. Kohlbrugge (1898) gives the most complete account of any of his contemporaries.

Harrison, Myers, Berry and Dickinson are some of the American workers who have contributed to the literature on human tails. Harrison (1901) is the only one who has given a comprehensive account, and he alone undertook a histological study of a caudal appendage. More recent reports have been made by Konstantiowitz (1907) and Schwartz (1912.)

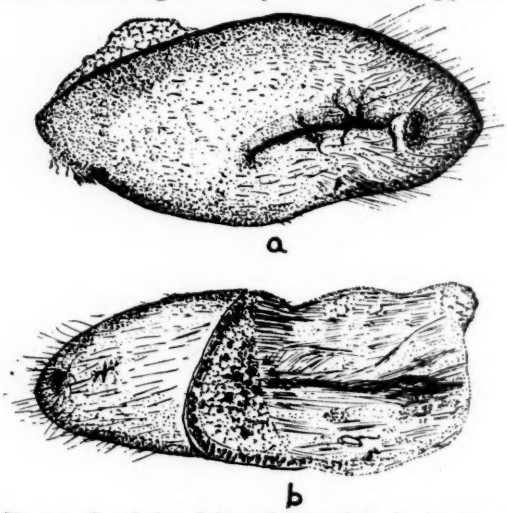


Fig. 1, a.—Dorsal view of the caudal appendage, showing groove and pit (natural size).
b.—Ventral view of the appendage (natural size).

Proper distinction between the tails of the lower mammals and those described for man is essential. The mammalian tail consists of an axis of vertebrae with the attached muscles, the blood vessels, nerves, connective tissue and the skin with its appendages. The muscles are voluntary and there are both sensory and motor nerves. The skin is the usual type with sebaceous glands, sweat glands and hairs. In the human tails which have been reported in the United States no vertebrae have been described and there is much doubt if any vertebrae, as such, have ever been observed in a human tail. Cartilages have been found but these could not be held to be vertebrae. In

*From the Laboratory of Histology and Embryology, University of Virginia.

those that have been found to contain cartilage there is no increase over the usual number of thirty-four vertebrae. In one case of a human caudal appendage voluntary muscle was found (Harrison), but this was not so arranged as to permit control over the organ. In the majority of the reported cases the so-called tail was merely a sac of adipose tissue or a tiny fold of skin overlying a bit of cartilage. In many cases the appendage could not be legitimately classified as a tail.

The Development and Reduction of the Embryonic Human Tail

Ecker and His were the first to give detailed descriptions of the caudal region of the human embryo. They came to the conclusion that the term "tail" could properly be applied only to that portion of the human embryo that extends beyond the cloaca.

The human tail reaches its highest development when the embryo is between the 7 mm. and the 16 mm. stage. It consists of a portion containing vertebrae and a portion free of vertebrae; only the non-vertebrated portion atrophies. The vertebrated portion disappears in consequence of the curvature of the sacrum and the coccyx. It contains the caudal ends of the spinal cord, notochord and the middle sacral artery and vein. The longest embryonic tail found by Kunitomo (1918) was 1.2 mm. in length on an embryo of 7.5 mm. The human embryo of 14 mm. has the best developed tail, although even at this stage there is no caudal filament as found in the tails of the lower mammals. The reduction of the tail begins by the time the embryo has reached 8 or 9 mm., and by the time it has reached 27 mm. the only part of the tail to be seen is a small papilla. The vertebrated portion has retreated and only the soft part is left. This also finally disappears in the normal individual. Kunitomo holds that the tail-like appendages which appear in adults may be explained as persistent caudal tubercles or papillae (Fig. 6, B. med. c. ves.) which have failed to atrophy in the normal manner. The tail entirely disappears between 27 mm. and 35 mm.

The caudal gut disappears at the 6.5 mm. stage, but the medullary tube extends to the extreme tip of the tail. At the 15.5 mm. stage the medullary tube can be divided into two parts at the level of the thirty-second vertebra; a cranial portion with a wide canal, and a caudal portion which is atrophic and has a very narrow lumen. We believe that this latter part played an important role in our case. The atrophic portion gradually becomes more slender, although sometimes the extreme caudal portion remains stationary or becomes enlarged. The atrophic portion subdivides, the caudal element becoming the medullary coccygeal vestige, and the cephalic element the filum terminale. The medullary coccygeal vestige can be clearly seen in the 23 mm. embryo and can be traced through the 52 mm.stage (Fig. 6, B).

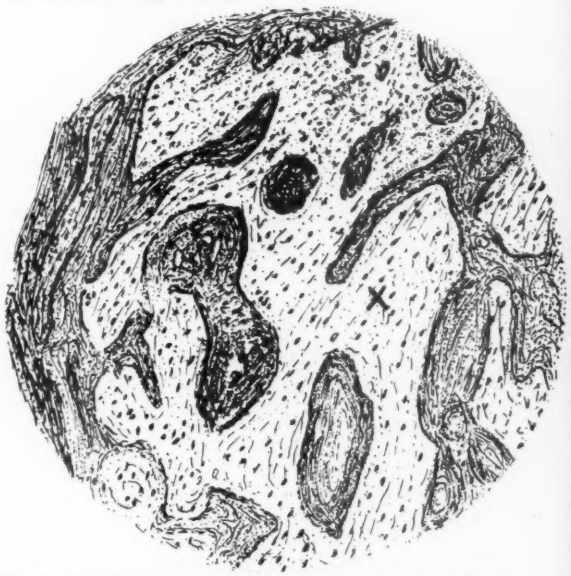


Fig. 2.—Typical view of axial core of caudal appendage, showing characteristic relation between connective tissue trabeculae and neuroglia (X).

In embryos of 12 to 14 mm. there are 33 spinal ganglia; this number is reduced to 29 by the 67 mm. stage. Four ganglia disappear; no nerves can be traced to these.

Clinical History.

The patient, a well developed and well nourished white female child, fourteen months of age, was brought by her parents to the Cora Donnell Hospital, Prescott, Arkansas, June 7, 1929, because of a growth in the caudal region. There is no other instance of congenital deformity in the family, as far as the parents know. The child was born at term and the intra-uterine period was passed by the mother with no unusual features. The postnatal condition was good, there being no cyanosis or failure to nurse. The birth weight was estimated at eight pounds. The infant was breast fed. Growth and development have been apparently normal.

At birth it was noticed that the child had a "tail." This fact upset the parents a great deal and they felt ashamed to consult a physician with the idea of having it removed. However; they decided that

something should be done before the child grew older, so they brought the child into the hospital for treatment. The tail has grown proportionately with the individual, but at no time has it caused any inconvenience except that the baby cried when the tail was handled and seemed to prefer not having it touched at all. The child would not move any part of the body except the hands when told to do so. It would kick its legs about and the tail would move, although it was impossible to say whether there was any voluntary movement or not.

Mental development was apparently average. The fontanelles were closed and there was no evidence of hare-lip or cleft palate. The tonsils were small and buried. There were no abnormalities about the teeth. The heart and lungs were normal. The chest showed no signs of rickets or other abnormality. The liver was palpated; there were no masses. External examination showed no abnormalities about the genitalia. The extremities and the skin were perfectly normal At the time of the examination, June 7, the child weighed 24 lbs. and 10 ounces.

The laboratory findings showed: Hemoglobin—85% (Tal.), RBC—4,400,000, WBC—8,600. Differential white count; lymphocytes—54%; Polymorphonuclears—41%, large mononuclears—4%, eosinophils—1%, basophils—0%, transitionals—0%. Smears showed no change in the size or the staining properties of the red blood corpuscles. There were no malarial plasmodia and the platelets were apparently normal.

The anesthetic used was drop ether. Symmetrical incisions were made, one on either side of the appendage, joining superiorly and extending around to unite just posterior to the anus. The appendage was resected. The patient recovered from the operation in good condition and the parents have not been seen since.

Gross Description of the Tail

This sacro-coccygeal appendage is 7 cm. long, 2 cm. thick and tapers to a width of 2 cm. at the free extremity (Fig. 1, a and b). It is more or less rounded and covered with thick skin. There is a pocket in the extreme caudal end which may possibly correspond to the foveola coccygea. About 1 cm. anterior to this terminal pit there is another of the same general character, and there is a third small pit on the ventral surface. All of these depressions are lined with normal, moderately thick skin. About 3 cm. from the tip and on the dorsum of the structure there is a groove or fold. It is about 1.5 cm. in depth and about 3 cm. long and it is also lined with moderately thick skin. Other authors have noted such grooves. This leads us to think that we may be dealing with the same thing. We believe that these grooves arise as the result of regressive changes in the connective tissue.

Histology of the Tail

The material was fixed in 10 per cent formalin. Portions were cut from the tail at representative places so as to give a complete histological section through the tail, and to give the structure of the pits and groove. Celloidin sections were stained with hematoxylin and eosin, Weigert's elastic tissue stain and with Mallory's phosphotungstic acid-hematoxylin. Considering the fact that the tissue was fixed in formalin alone, the results with the last named stain were very satisfactory in differentiating neuroglia fibers. The glia cells stained well in any of the above mentioned stains.

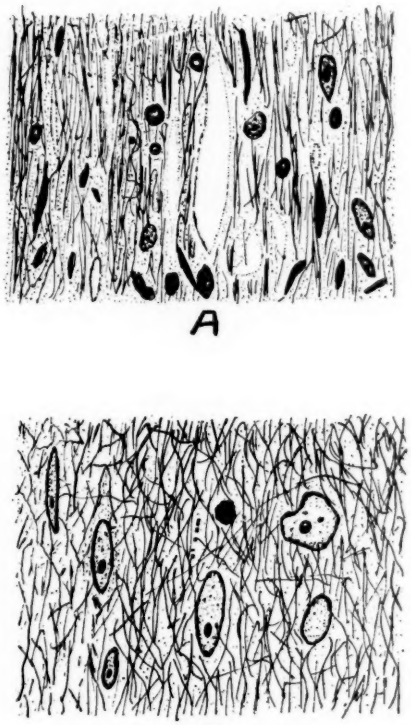


Fig. 3, A.—More highly magnified view of neuroglia. Hematoxylin and eosin stain. Magnification x 1000.
B.—View of similar area stained with Mallory's phosphotungstic acid-hematoxylin. x 1000.

The epidermis, derma and subcutaneous tissue are normal with well developed hairs, sebaceous glands and underlying connective tissue. The skin is underlaid by a stratum of adipose tissue with many small arteries and veins. Beneath this adipose tissue occurs dense areolar tissue from which many trabeculae penetrate toward the surface of the structure.

The axial bulk of the appendage consists of neuroglia tissue. Many glia fibers and glia cells compose dense, thick cords (Fig. 3) intermingling everywhere with the connective

tissue and apparently encroaching upon it very rapidly. The cells of the neuroglia are associated with fibers which stain sharply with Mallory's stain. These cells are irregular in shape and vary from ovoid to stellate and fusiform (Figs. 3, 4.) These cells have very little cytoplasm. In our specimen the neuroglia tissue has apparently grown proportionately with the growth of the child.

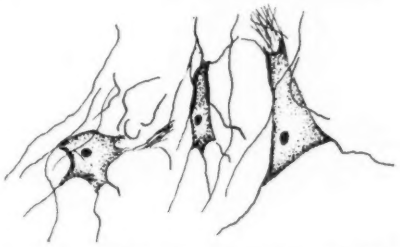


Fig. 4.—Typical neuroglia cells. There is a dense background of neuroglia fibers, not shown. x 1000.

This fact accounts for the great number of neuroglia fibers as well as cells. We find numerous neuroglia cells in various stages of atrophy and calcification (Fig. 7, c, d, e, f, g, h). This shows that the neuroglia tissue has begun to involute, a characteristic of gliomas.

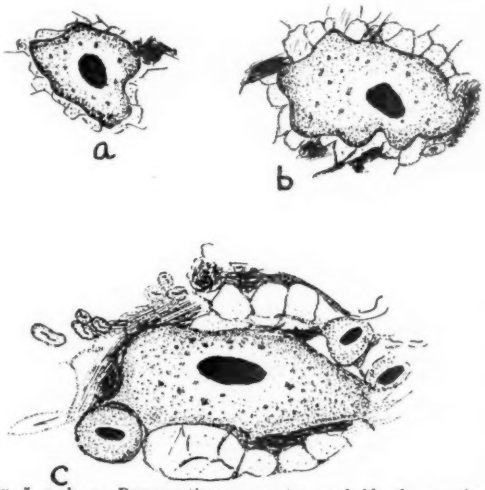


Fig. 5, a, b, c.—Degenerating neurocytes, probably the remains of a ganglion. Hematoxylin and eosin. x 1000.

This process of calcification begins by a slight enlargement of the cell. Subsequently the cytoplasm appears to fracture concentrically; at the same time the nucleus degenerates. The cell enlarges further and the nucleus finally disappears. The cell is then a lamellated structure with a relatively clear space in the center. These cells suggest the "brain sand" of the involuting epiphysis cerebri (pineal body).

Gliomas occur only in the central nervous system and its outgrowths. The vestigial remains of the neural tube offer exceptional possibilities for the production of gliomas, since very often the atrophy of the coccygeal vestige is incomplete. These persistent cells have the inherent capability of producing neuroglia tissue and occasionally give rise to gliomas over the coccyx and in the nose.

We are unable to say at this time whether this glioma will reappear or not. Although gliomas show a tendency to infiltrate the connective tissue they do not attack the blood vessels. So far as is known no case of glioma of the brain has given rise to metastases outside of the central nervous system. On the other hand a woman of forty-two, having a glioma over the coccyx, showed a recurrence which produced metastasis in the groin glands (Mallory).

The glioma under discussion was as hard as a dense fibroma and was pearly grey in color. This corresponds exactly to the records of other sacro-coccygeal gliomas. Mallory says, "various retrograde changes may occur in gliomas—necrotic tissue may, instead of undergoing softening, become calcified." This agrees with our observations.

We conclude that this appendage, which had the external features of a human tail, according to the classification of Bartels, Virchow and others, is no more than a coccygeal glioma. The finding of partially atrophied ganglion cells (Fig. 5, a, b, c,) as well as the fact that neuroglia must be derived from the central nervous system, presents strong evidence that we are dealing with a remnant of the neural tube, the medullary coccygeal vestige. This case is interesting because it proves that the medullary coccygeal vestige can give rise to a tumorous growth. It furthermore shows the necessity for the minute study of such anomalies.

Summary

1. This caudal appendage comes under the classification of Bartels as a "free" tail and under that of Virchow as a "soft" tail. It does not agree histologically with the only other tail which has been given careful attention from the standpoint of microscopical analysis. It contains an irregular axial core of neuroglia.

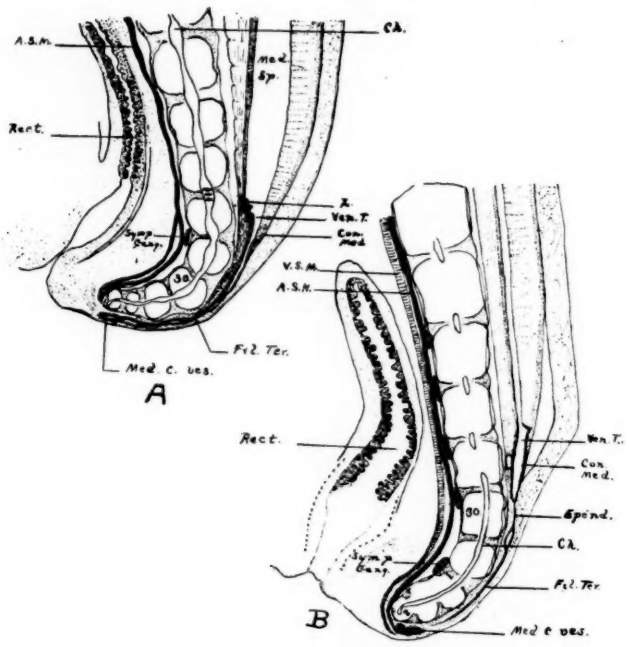


Fig. 6, A.—Median longitudinal section of a 37 mm. human embryo (after Kunitomo). A. S. M. median sacral artery; ch. notochord; con. med. conus medullaris; Fil. t. filum terminale; symp. gang. sympathetic ganglion; med. sp. medulla spinalis; Rect. rectum; V. S. M. median sacral vein, vent. t. ventriculus terminais; X characteristic fold in the wall of the spinal cord.

"The specimen shows the transition of the atrophic spinal cord into a fibrous filum terminale. The terminal portion retains its lumen and persists as the coccygeal medullary vestige." This vestige may become the source of a glioma as in our specimen.

B.—Median longitudinal section of a 52 mm. human embryo. Labels as in A. "At this time the terminal ventricle, filum terminale and the coccygeal medullary vestige are distinctly marked off from each other and their general adult characteristics attained." (Kunitomo).

2. The neuroglia tissue must of necessity have been of epiblastic origin. It signifies the persistence of the medullary coccygeal vestige in post-embryonic life. It demonstrates that this vestige may give rise to a neoplasm.

3. The occurrence of a few partially atrophied ganglion cells further supports the conclusion that this is a persistent medullary coccygeal vestige. The appendage corresponds to Mallory's description of a sacro-coccygeal glioma.

4. We advance the theory that the calcified neuroglia cells may correspond to the "brain sand" of the involuting pineal body.

5. The report of this appendage shows the necessity of making minute studies of such anomalies.

The authors desire to express their appreciation for the help extended to them by Dr.

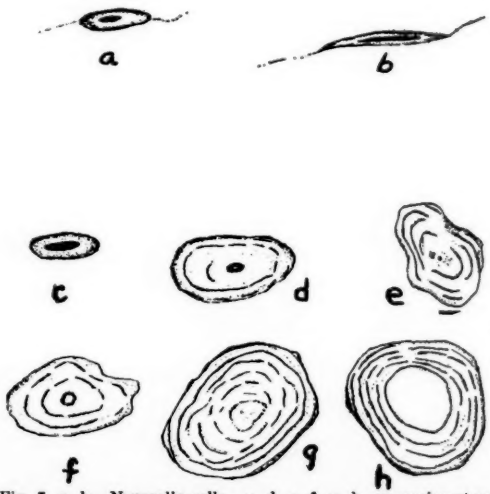


Fig. 7, a, b.—Neuroglia cells. c, d, e, f, g, h, successive stages in the transition from the typical glioma cell to the atrophic calcified lamellar type. Hematoxylin and eosin. x 1000.

H. E. Jordan, Professor of Histology and Embryology, Medical School, University of Virginia.

LITERATURE CITED.

Bartels, M.: 1884. Die geschwanzten Menschen. *Archiv. f. Anthropol.* Bd. 15.

Dickinson, R. L.: 1894. A Child With a Tail. *Brooklyn Med. Jour.* Vol. 8.

Ecker, A.: 1859. Icones Physiologicae. Leipzig.

Ecker, A.: 1880. Besitzt der menschliche Embryo einen Schwanz. *Archiv. f. Anat. u. Entwicklungesch.*

Harrison, R. G.: 1900. On the Occurrence of Tails in Man and the Description of a Case Reported by Dr. Watson. Proc. Assoc. Am. Anat. December).

His, W.: 1880. Uber Schwanzteil der menschlichen Embryo. *Archiv. f. Anat. u. Entwicklungesch.*

Jordan, H. E.: 1924. A Textbook of Histology. D. Appleton & Co.; New York.

Jordan, H. E., and Kindred, J. E.: 1926. A Textbook of Embryology. D. Appleton & Co; New York.

Kunitomo, K.: 1918. The Development of the Human Tail and of the Spinal Cord. Contrib. to Embryol. No. 26, Vol. 8.

Mallory, F. B.: 1914. Pathological Histology. W. B. Saunders & Co.; Philadelphia

Rosenberg, E.: 1876. Ueber die Entwicklung der Wirblesaule und das Central Carpi des Menschen. Morphologisches Jahrbuch.

Schaeffer, O.: 1892. Beitrag zur Aetiologie der Schwanzbildungen beim Menschen. *Archiv. f. Anthropol.* Bd. 20.

Tod, J.: 1829. Annals and Antiquities of Rajasthan of the Central and Western Rajpoot States of India. London.

Tourneux, F, and Herrmann, G.: 1887. Sur la persistance de vestiges coccygiens pendant toute la periode foetale chez homme et sur le role de ces vestiges dans la production des tumeurs sacro-coccygiens congenitales. *Jour. de L'Anat. et de Physiol.*

Virchow, R.: 1884. Schwanzbildung beim Menschen. *Deutsch. Med. Wochenschr.* 10 Jahrg.

IONIZATION IN THE TREATMENT OF SKIN DISEASES—PRELIMINARY REPORT.*

By RUSSELL FIELDS, M. D., Washington, D. C.

Ionization is a subject which should be of particular interest to the dermatologist. It offers a means of introducing medicaments into the skin with greater penetration than can be attained by ointments. Much has been written on the subject, with varying claims as to its efficacy. The purpose of this article is to record the results obtained in the University and Bellevue Clinic during the past six months.

Ionization is based on the theory that all elements can be broken into their respective atoms. Many of these atoms can further be subdivided into ions. All ions carry a positive or negative electrical charge. Not only ions, but groups of elements (molecules) may carry an electrical charge. By using a direct (galvanic) current, ions may be made to flow from one pole to the other, a fact which is clinically utilized in the application of ionization. Both cataphoresis and anaphoresis are included under the term ionization.

The apparatus used consisted of a motor transformer operating on a direct current of one hundred and ten volts. If only alternating current is available, a motor generator must be used. The current produced was between forty and fifty volts and one to ten milliamperes. A milliammeter and finely adjusted rheostat were also in the circuit. Sheet lead was used as the inactive pole covered by cotton and gauze saturated with physiologic saline solution. The active pole was made of copper covered with gauze soaked in the particular medicament to be used. The positive or negative pole was connected with the active or inactive electrode depending upon the charge of the ion introduced. Leduc[1] found that between one and two per cent solutions were the most effective, stronger concentrations not being necessary. He also determined the depth of penetration and the quantity introduced in a given time. In my work three solutions have been used: one-quarter of one per cent iodine (Lugol), one per cent oxycyanide of mercury and one per cent solution of zinc sulphate.

The active pole is applied to the area which is treated, and the inactive pole is placed in a convenient nearby position. For example, in treating pruritus vulvae and ani the inactive pole may be placed over the lower abdomen or the lumbar region. The inactive pole should be six to eight times larger than the active one. The current is increased gradually until a burning sensation is produced. This is usually reached between seven and ten milliamperes. It is claimed, however, by the manufacturers of the latest forms of apparatus producing galvanic current that fifty milliamperes may be used without producing discomfort. What effect such a high milliamperage would have on more complete ionization of the atoms I do not know. With a high milliamperage the time of application may be shortened.

There is a possibility that the results of ionization may be partly due to the current at the poles and not entirely to the medicament introduced. It is well known that the positive

*From the Department of Dermatology and Syphilology, University and Bellevue Hospital Medical College, Clinic of Dr. Howard Fox.

pole liberates oxygen, produces an alkaline reaction, stops bleeding, hardens tissue and acts as a vasoconstrictor. The negative pole, on the other hand, liberates hydrogen, produces an acid reaction, increases bleeding (being a vasodilator), liquefies and disintegrates tissue and softens cicatrices. These effects of the current alone are an aid in the treatment of certain skin conditions. Furthermore, the secondary reactions which take place between the ions set free at the poles and the material of the pole may have some effect. Lewis explains this action very well in his work on ionic medication.

My work has been confined principally to dermatologic affections which it seemed might be benefited by the introduction of a germicidal or a stimulating remedy. I have taken into consideration the physiological effects of the current of the poles, but have not relied on this alone.

Nine different skin diseases were treated. In this small series of cases one hundred and eighty treatments were given from fifteen to twenty minutes each.

The most encouraging results were obtained in pruritus vulvae, in which 62.5 per cent of the patients were entirely relieved of itching.

In pruritus ani 40 per cent were very much improved, 30 per cent moderately, and 10 per cent slightly improved.

Improvement was noted in one case of neurotic excoriations, one case of intertrigo and one case of chloasma. There was no result in one case of eczema of the scrotum and one case of lupus vulgaris, although the latter disease has been successfully treated by Whitfield by ionization.

The following few cases are illustrative of some of the results obtained:

Case I.—Pruritus Vulvae: Mrs. G. W., age 35, duration 4 years, first treated in 1926 with X-ray. Four ¼ H. relieved her. She has been quite well until five months ago. Ionization 16 minutes, 1 per cent iodine (Lugol), 10 MA at four-day intervals four times. Five months later, no recurrence.

Case II.—Pruritus Vulvae: Mrs. W., age 60, 10 years' duration, X-ray—thirteen and one-quarter units. No relief. Ionization 5 MA, 1 per cent iodine (Lugol), 15 minutes, five treatments, sedative at bedtime. No recurrence five months.

Case III.—Pruritus Ani: Mrs. G. C., age 49, duration 2 years, mild acute dermatitis around anus. Intense itching. Lugol's 1 per cent, 10 MA, 15 minutes, six treatments. No recurrence six months.

Case IV.—Alopecia Totalis: Miss L., age 25. Four years ago her hair fell out for the first time. It showed no signs of returning for one year. The second time it fell out was in January, 1927. Fell out gradually for nine months, and then suddenly stopped falling. It started to fall out January 1, 1929, and all fell out in three or four weeks. When treatment was started, she was completely bald. Zinc sulphate, ionization 1 per cent solution, 15 minutes, 2 areas, 10 MA twice a week, seemed to stir the growth up immediately. Five months later finds the hair growing in well.

In treatment of pruritus ani and vulvae, a one per cent solution of iodine (Lugol) was used, reducing the strength at times to one-quarter of one per cent. In cases of pruritus associated with an acute dermatitis, a lesser concentration was used and weaker current applied (usually from two to five milliamperes). In cases with lichenification or in pruritus with no demonstrable lesions, the usual one per cent solution of iodine (Lugol) was used with eight to ten milliamperes of current. Dermatophytosis was treated successfully in four cases. The introduction of novocain by ionization to produce local anaesthesia was tried without result.s On the other hand this was successful when one per cent cocaine hydrochloride was used.

In the management of cases treated by ionization, full cooperation of the patient is essential, and sometimes a mild bromide or amytal at bedtime is found to be helpful. Treatments in pruritic affections may be given twice a week or even daily, depending on the amount of itching, and should be continued a few weeks after all symptoms have disappeared. Results were obtained frequently where X-ray had failed. The combination of phototherapy (mercury-vapor-arc lamp) and ionization produced results in one case where other measures failed.

My results are similar to those of Oliver,[2] who found that in 30 cases of pruritus ani, 23 per cent were cured, 35 per cent much improved, with no improvement in 20 per cent. Buie[3] reported that 72 per cent of his patients obtained "sufficient relief to repay them for the time spent in taking the treatments." Rolfe[4]

reported marked improvement in 12 of his 30 cases. Montague[5] who has had a wide experience in this work believes that the treatment attains the desired results when properly carried out at regular intervals.

From my limited experience it would appear that in the treatment of *pruritus vulvae et ani* (and possibly dermatophytosis) ionization is a method of value.

REFERENCES.

1. Leduc, Stephane: Electric Ions: Their Use In Medicine, Translated by R. W. McKenna, New York. Paul B. Hoeber, 1908.
2. Oliver, E. L.: The Treatment of Pruritus Ani by Electric Ionization. *Arch. Derm. & Syph.*, Vol. 14:560.
3. Buie, L. A.: Tr. Am. Proctologic Soc., Twenty-fifth Annual Session, 1924.
4. Rolfe, W. A.: Treatment of Pruritus Ani by Ionic Medicat'on. *Boston M. & S. J.*, 181:196, August 14, 1919.
5. Montague, J. F.: Puritus of the Perineum. New York, Paul B. Hoeber, 1924.
6. Whitfield, A.: Treatment of Lupus by Ionization, *Lancet*, 5:16, 25.

Columbia Medical Building,
1835 *Eye Street, Northwest.*

MALARIA.*

By LEWIS C. LUSH, M. D., Richmond, Va.

Malaria is a protozoan disease which affects man and certain species of anopheles mosquitoes. It is characterized in man by paroxysms of intermittent fever in the acute stage, and by cachexia, anemia and enlargement of the spleen in the chronic stage.

Malaria is generally prevalent in the tropics, except in arid areas, and is endemic in many parts of the temperate zone during the warm season. It is endemic in the Southern States and in Southern Europe. Its distribution in the temperate zone is, however, gradually being reduced, and its seriousness in the tropics lessened. At one time malaria was prevalent as far north as the New England States, but now it is rather rare north of Virginia and rarely reaches serious proportions in the states further south.

The causative organism in malaria is a plasmodium, which is a protozoan parasite. Plasmodium falciparum is the causative organism in estivo-autumnal fever, P. vivax in tertian, and P. malariae in quartan fever.

The organism was first discovered in 1880 by Laveran, a French army surgeon, and thought to be the cause of malaria. In 1885 Golgi observed that the paroxysms of fever invariably coincided with the sporulation or segmentation of groups of the parasites in the blood. He also discovered a difference between the organisms in tertian and quartan fevers. In 1889 Marchafava and Celli found that the parasite of the severer form of malaria, namely, estivo-autumnal, was still a different parasite.

The relation of malaria to insects was suggested by the old Romans, and revived by John Crawford, of Baltimore, in 1807. The belief that fever was transmitted by the bite of the mosquito prevailed widely in the West Indies and the Southern States. But it remained for Manson, who was influenced by the work of Theobold Smith in demonstrating the role played by the tick in Texas cattle fever, to formulate a clear and scientific theory of infection in malaria by the mosquito. Ross, in India, showed that the parasites developed in the bodies of mosquitoes, and demonstrated that the infection in birds was transmitted by mosquitoes. Then the role of the mosquito was definitely proven by Manson in his experiments where the disease was transferred to man by the bite of the mosquito, and by the results of the anti-malarial campaigns where the people were protected from mosquito bites.

There are two separate stages in the life history of the plasmodium, a sexual and an asexual stage. The latter takes place in man who acts as the intermediate host and in whom in this cycle of its development it causes the symptoms of malaria. In the sexual stage the parasite lives and develops in the intestinal tract of females of certain species of the anopheles mosquito.

In the asexual cycle the organism enters the blood from the bite of a mosquito and enters a red blood cell where it grows until it has reached its full size. It is an amoeboid body which fills or distends the corpuscle when fully developed. At this time it divides into a number of small hyaline bodies, known as merozoites, and the corpuscle ruptures, freeing them into the blood stream from where they in turn enter corpuscles and repeat the cycle. This cycle takes from twenty-four to forty-eight hours in estivo-autumnal malaria, forty-eight hours in tertian, and seventy-two hours in quartan. The paroxysms of fever are due to the toxins liberated, when great numbers of corpuscles rupture, liberating the merozoites and their waste products of metabolism.

*Read before the Manchaster Medical Society on March 5, 1929.

XUM

Beside the amoeboid bodies which pass through the asexual cycle, there are present with them some individuals with sexual properties which are gametocytes, male and female. These are slower growing and do not sporulate. When these forms are ingested by the mosquito, the female gametocyte is fertilized by the male and forms a zygote which penetrates and becomes encysted on the intestinal wall of the mosquito. After about two weeks this cyst ruptures, liberating many sporozoites which migrate to the salivary glands of the mosquito and are ready to be injected into man to start the asexual cycle over again.

When a mosquito is infected, it is probably infected for life. That is the few that have been kept under observation have been found to be. One was found to be infectious for ninety days, when it died. Most mosquitoes die or are destroyed before they are two weeks old.

As you will note, the plasmodium causes a pathological condition in the mosquito as well as in man. Dr. Alessandrini, of Rome, believes that mosquitoes have a certain resistance to malaria which varies with their nutrition in the larval stage. He says in part: "Malaria in its extension and severity is in inverse relation to the organic resistance acquired by the anopheles during its larval state."

Here in Virginia tertian malaria is the most prevalent, probably being about 60 per cent of the malaria. Estivo-autumnal accounts for practically 40 per cent. The quartan is negligible. In the tropics estivo-autumnal is the most prevalent accounting for approximately 69 per cent of the cases on the Canal Zone. Quartan accounts for less than 1 per cent, leaving only about 30 per cent due to tertian organisms.

The incubation period of malaria, from the time a person is bitten until the first paroxysm, varies with the person's natural resistance, his physical condition and the number of the infecting organisms delivered by the mosquito. It is usually about ten days, varying from one and one-half to fifteen days or more.

In typical malaria the paroxysms come every forty-eight hours in tertian, every seventy-two hours in quartan, and in from twenty-four to forty-eight hours in estivo-autumnal malaria. As the disease continues untreated, the paroxysms are apt to become longer and lose their regularity. Also in mixed and multiple infections the paroxysms are apt to lose their periodicity.

In typical malaria the patient generally knows when he is going to have a chill by the preceding unpleasant feeling. The typical paroxysm itself is divided into three stages—the cold, the hot, and the sweating stage.

In the cold state the temperature begins to rise and may reach 105° or 106°, but the skin is cold. The patient looks and feels cold; he shivers and shakes the bed. His teeth chatter. He has headache. The pulse is quick and small. There is an increase in the urinary output, and there may be nausea and vomiting. After from ten minutes to an hour or more the patient has flushes of heat. The skin becomes florid and hot. The pulse becomes full and bounding. The headache continues and throbs, and there may be delirium. After from one-half to three-quarters of an hour of this, the patient begins to sweat. The sweating may be only slight or very profuse and drenching. In this stage the patient's discomfort disappears, the headache is relieved, and the patient usually sinks into a refreshing sleep.

In between the paroxysms the patient may feel normal except for some weakness. As a rule the quartan paroxysms are milder than the tertian, and the estivo-autumnal paroxysms more irregular, with a longer febrile stage. As a rule, estivo-autumnal malaria is the most severe form as the paroxysms come oftener and last longer, thereby giving the patient less time in which to recuperate and raise his resistance.

In the atypical case of malaria one may find most any symptom. One may find the organisms in the blood of a person who is enjoying good health and presenting no symptoms or signs of the disease other than the parasites. Then the patient may show only slight weakness and malaise with no fever. Or he may show a continued high fever with only slight remissions.

Osler describes an algid form of malaria, in which the symptoms are chiefly gastro-intestinal in form, with nausea, vomiting and diarrhea. There may be a continued high fever, or none, with the patient feeling chilly occasionally. In this form the urine is scant, due to the diarrhea and vomiting, and the pulse is feeble. The G. I. tract in this form is the seat of a special invasion of the parasites, and

at times the capillaries are thrombosed by them giving small ulcers and necrotic areas. Death is not infrequent.

In the cerebral form we have the symptoms of cerebral irritation, hyperactive reflexes, irritability, delirium, and coma; or, there may be transient paraplegia, peripheral neuritis and acute ataxia. In the cerebral form the temperature is usually high. The symptoms and signs are due to three things—the fever, toxins, and thrombosis of the cerebral capillaries, by masses of parasites. Death in this form is also not infrequent.

Then we come to another condition, classed by American writers as a form of malaria, namely, black water fever, or hemoglobinuric fever. This condition is characterized by paroxysms of hemoglobinuria, accompanied by rises in temperature. The color of the urine varies from a red tinge to black, and the blood serum from pink to brown. There may be suppression of urine, and the patient may die of uremic symptoms or from cardiac exhaustion. The death rate in this condition is high, ranging above 20 per cent. There are many reasons for believing black water fever to be due to malaria, among them, the distribution. It is always found only where malaria is found, it has a seasonal incidence, the peak following the peak in malaria, and the racial susceptibility, like malaria, is highest in the whites and lowest in the blacks. But proof that malaria is the real cause is lacking, in that the organisms of malaria have been found in only about 50 per cent of the cases that have been studied. The Americans believe that the cause is malaria plus and individual susceptibility. The role played by quinine is questionable, since people have black water fever who have never taken quinine. The Latins believe that there is some other factor in the cause of black water, probably an unknown infection. Whitmore has recently demonstrated what he believes to be a family susceptibility. Whether his findings are due to a susceptibility or to an infection, as suspected by the Latins, remains to be proven.

The course of malaria varies with the individual patient. There may never be any symptoms, or the disease may become malignant and go on to a speedy death. Some cases peter out after from ten to fourteen days and get well even without treatment. The case may get apparently well, and then relapse. This relapse may be at any time within a year or more, usually coming on when for some reason the patient's resistance is low. There is a tendency for the disease to go on to chronicity, if untreated, causing anemia, and in many cases hematogenous jaundice, and an enlarged spleen.

Diagnosis: The only sure diagnosis is to find the organisms in the blood. In the acute stage, this is usually easy, just preceding the paroxysms. But in the chronic and atypical cases, resort often has to be made to repeated thick smears to find the organisms. In the typical case, a fairly reliable diagnosis can be made from the history. Reliance on the enlarged spleen is of little value even in heavily infected areas, as only a small percentage of the malarias give a palpable spleen. And, too, there are so many other conditions that cause enlargement of the spleen.

Malarial Control: Any program for malarial control must be directed towards mosquito destruction and the care of human carrier. The first is a public health or sanitary problem, consisting in the draining of breeding places where practical, and the use of larvicides, such as oil and paris green sprayed on the breeding places that cannot be drained. What can be accomplished by sanitation has been admirably demonstrated in our Canal Zone, which was known as the white man's grave before the advent of the Americans. Now it has a death rate lower than Continental U. S. The malaria rate in the Canal Zone in 1906 was 821 per 1,000 employees. In 1926 it was 16. Deaths from all causes were 50 per 1,000 in 1906, and 8.5 in 1926, being only 3.3 per 1,000 among the white American employees.

Now, coming to the handling of the malarial patient, they should be protected by screens from mosquitoes which they might infect. In the acute stage patients should be put to bed and kept there as long as febrile. They should be given a laxative and put on a light nutritious diet. During the chill they should be covered with blankets and hot water bottles applied. In the hot period following the chill, an ice-cap is indicated as in any other high fever.

Medication: Quinine, the value of which the South American Indians discovered and passed on to the Spanish, who in turn passed it on to the rest of the world, is listed as one of our few specific drugs. But, unfortunately, it is

XUM

not 100 per cent perfect. We know that cases will relapse after weeks of intense treatment, and that gamites can also be found after weeks of treatment, and cases have been known to succumb to malaria while on a prophylactic dosage of 10 grains of quinine per day. Quinine, while being specific against the ring forms of the parasite in the blood, seems to favor and hasten the formation of gamites against which it has little effect. While not being perfect, quinine still remains our best remedy in the febrile stage of malaria. It should be given in an effective dosage. The Canal Zone routine dosage, based on the observations on an active service for more than twenty years, is 20 grains by mouth on diagnosis, and 10 grains three times daily until afebrile--then, from 20 grains to 5 grains per day for six weeks after they have become afebrile. This quinine is given in solution. Here in Virginia, with our usually mild malaria, such large dosage over such an extended time may not be necessary. But we must remember that when a malarial patient is afebrile, he is not necessarily well. He may relapse or his blood may be full of gamites, making him a dangerous carrier.

Quinine should be given orally whenever it is tolerated, but, as it often happens, the patient is vomiting and will retain nothing in the stomach. Then the intra-muscular method of administration should be resorted to, from 15 to 20 grains of the dihydrochloride being given in from 3 to 5 c.c. of sterile water. This should be repeated in 10 grain doses from two to three times a day until the drug is tolerated by mouth. More than three doses intramuscularly is rarely needed. Aseptic precautions should be observed as quinine is itself an irritant and is prone to cause abscess formation. Massage over the site of injection will hasten absorption.

Quinine intravenously is rarely indicated. It is only justified in malignant cases of algid or cerebral malaria where a few minutes saved may decide the course of the disease. When given, from 5 to 15 grains in at least 300 c.c. of sterile saline solution should be given slowly. There are too many cases on record where the patient has died in from ten to twenty minutes after receiving quinine intravenously to give it indiscriminately. The intravenous method will get quicker results due to the greater concentration of quinine in the blood. The danger of this method also lies in this greater concentration. When a patient is already weak, toxic, and desperately ill, the depressant action of a large concentration of quinine may, and often does, prove to be the last straw.

Contra-indications for the use of quinine in malaria are few, if any, excepting an individual intolerance for the drug. Some patients do not tolerate it even in small doses, getting up the toxic symptoms of headache, dizziness, ringing in the ears, emesis and, at times, coma.

Within the last few years the Germans have put out a new synthetic drug, plasmochin, which is proving to be a valuable remedy in the control of malaria. The Medical Department of the United Fruit Company, which has had practically a monopoly on the plasmochin sent to America, has carried on a rather extensive research in the use of this drug for the last three years. Others have made some observations on the use of this drug, but on a much smaller scale. They have found that the drug is effective against the tertian ring forms in the blood, but not against the estivo-autumnal ring forms. Its greatest usefulness, however, consists in its seeming specificity against gamites, both estivo-autumnal and tertian, against which quinine has so little effect. They find that the blood is usually free of gamites in from six to eight days of treatment with plasmochin. An intensive course of quinine will usually clear the blood of ring forms in from six to eight days, and they find that, by combining plasmochin and quinine, the blood can be cleared of both forms of the parasite in from six to eight days in practically all of the cases, thus doing away with the necessity of giving quinine over an indefinite time, and reducing the danger of turning loose symptom free carriers. Plasmochin is put up in two forms, plain tablets containing 1/3 grain plasmochin, and plasmochin compound tablets containing 1/6 grain plasmochin and 2 grains of quinine. It is given to adults in 1/3 grain doses three times daily for from six to ten days. The greatest drawback to this drug is its toxicity. Toxic symptoms are prone to occur if its use is persisted in longer then ten days, often sooner. The use of quinine with it seems to reduce its toxicity. The toxic symptoms are prostration, jaundice, and cyanosis. This is not a true cyanosis but a discoloration of the blood serum due to cell destruction. Plasmochin should be used only

when the patient is under medical supervision.

Besides quinine and plasmochin, cardiac stimulants may be needed in severe cases of malaria, and most patients will be benefited by a good tonic after a spell of malaria.

Summary

Malaria is due to three forms of a protozoan parasite which are dependent on two hosts for their existence, man and certain species of anopheles mosquitoes.

To get rid of malaria, we have but to get rid of either mosquitoes or to cure all cases of malaria. Mosquito destruction is a sanitary problem and should be persisted in for comfort as well as health.

The cure of the malarial patient is a medical problem. We now have two useful drugs for treating malaria—quinine, which will destroy the ring forms of the parasite that cause the fever and plasmochin which will destroy the gamites which cause relapses and which infect mosquitoes.

3115 *Hull Street.*

AN OINTMENT SYRINGE.

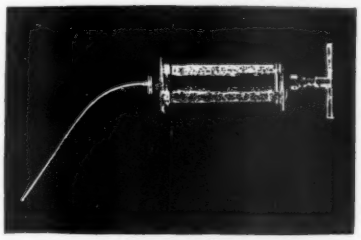
By J. B. H. WARING, M. D., Cincinnati, Ohio.

"Necessity is the mother of Invention" is a time worn phrase; but often the word "desirability" may be substitued for the more positive term "Necessity."

In a good many cases, where it was desired to apply an ointment to the upper portion of the nasal cavities, it was a difficult thing to do with the ordinary swab loaded with ointment. Usually most of this was wiped off on the septum or turbinal bodies in the upward passage of the swab or applicator; so that little if any ointment ever reached its desired destination.

Primarily to remedy this deficiency in our armamentarium, the below illustrated ointment syringe was devised. Borrowing from our friends of the garage, the commonly used "grease gun" for automobile lubrication was appropriated as a basis; and with the substitution of a threaded receiving nozzle for the ordinary grease gun connection, plus a small, fine calibered, flexible silver canula with bulbous tip, our outfit was complete. So great is the force required to squeeze ointment through such a fine long tube, that manual manipulation of the grease syringe was out of the question; hence, resort to screw mechanics to develop the necessary power.

Where used for intra-nasal application of ointment, the ointment syringe is filled with the desired ointment, and with the aid of head mirror and a self-retaining nasal speculum, the tip of syringe canula is carried under direct inspection to whatever portion of the nose desired; and with the syringe steadied in position with one hand, a few turns of the piston handle forces ointment out in a steady fine stream to the desired amount. Reverse turning of the piston handle stops the flow.



Ointment syringe.

In this way ointment may be applied with ease and efficiency to any desired portion of the nasal cavities; and if desired, through the natural openings, into antrums, sphenoids, etc. Ointment for this use should not be too stiff; but almost any nasal ointment formula may be employed.

In the same manner, ointment may be applied to the ears; throat; urethra; uterus; rectum; fistulous tracts and sinuses in any part of the body. Aside from the special canula for intranasal application, the syringe may be procured with a variety of the special tips as used with the ordinary liquid using syringe.

In our work, the little device has proven of much value, and it is hoped that others may find it equally useful to them.

7 East McMillan Street.

WHY THE HEALTH OF THE U. S. NAVY CANNOT BE COMPARED WITH CIVILIAN HEALTH AND OTHER MILITARY INSTITUTIONS.

By W. ARMISTEAD GILLS, M. D., Richmond, Va.
U. S. Navy (Retired).

Among those who have been interested in my investigation of health conditions in the U. S. Navy have been members of the naval affairs committees in both House and Senate, civilian physicians, editors of various periodicals, and the every-day man in the street.

The most frequent inquiry has been, how does health in civil life, and that of the English Navy, compare with the health of the United States Navy? This is but a natural inquiry, and one of great importance to humanity, economy and defense; therefore, I have made a careful study of the facts in the case, which I shall attempt to present, not from a standpoint of science and the exhibition of median rates, percentages per tens of thousands, etc., which are vague to most persons, but a presentation of fundamental conditions in order to get at the reasons for preventable sickness in the Navy, that they may be appreciated by the layman, with the idea of remedying the underlying factors.

Conditions in the U. S. Navy.

Reckoning the education of our officers as a whole, the advantages and attractions advertised to the prospective sailor, including military discipline, physical exercises, selected subjects, with the financial and moral support of the greatest nation on earth, with the sole objective of the Nation's security—these are among the auspicious reasons why our Navy should excel in health over any institution—either civic or military. We commence with selected men—the flower of American manhood—mentally, physically and morally fit, accepting perhaps only thirty per cent of those who offer at recruiting stations, and it is our sole business, not only to elevate health, but teach the recruit his profession—seamanship. Navy medical officers are not responsible for the health of infants, children, women, old men and cripples. The Government furnishes such equipment as instruments, books, office rent, licenses, taxes, and no bills to collect; nor do they have to visit the sick over a large territory—the patients are not sought, but assigned, to barracks and hospitals under military authority. Our paymasters never plead hard times! It matters not whether we are traveling, taking a special course of instruction, on the sick list, or on leave of absence, the taxpayer pays the bills. When the ranks have been depleted on account of disease, disability, and death, we advertise for more recruits, and enter the statistics in the annual health reports, without a sufficient accountability to the people, publicly. During recent years, the quota of both sick and well, to each Navy doctor, has been 131 men, more or less. In 1928, there were 68,674 patients on the sick list.

Conditions in Civil Life.

The civilian physician, especially in rural life, covers a large territory and his clientele not only extends to all classes and ages, but it also includes the seventy per cent who were rejected at recruiting stations as unfit for military duty and the thousands who were "invalided" back to civil life, with sickness and deaths thereafter—not charged to the Navy. One doctor serves every 700 people. Physicians not only have to furnish their own equipment, but collect their own income and do charity work. Inspections for cleanliness are done by sanitary inspectors—not doctors. Private practitioners, city and state health officers, discuss the civilian's health, publicly. Doctors are not required to attend court, unless expert testimony is given. When sick sailors desert, they seek civilian physicians, and the sickness is charged to civil life. A civilian doctor practices at the bedside throughout his entire active career. Industrial plants seldom require a physical examination before employment.

Inspections, Reviews and Examinations.

In civil life, the post office inspector, bank examiner, narcotic investigator, and packing house expert, make unannounced visitations, and when the civilian has violated the Federal laws, he is not only haled to court, but the proceedings are published. The fleet review, street parade, presentation of silver services to battleships, from which the public make their deductions as to health, not only represent the survival of the fittest, but such visitations are announced in advance, when everything is made "ship-shape" for the "inspection party," which include governors, congressmen, admirals, taxpayers. Our stewardship will be found in public documents. The sailors who have been separated on account of disease, disability, desertion, dishonorable discharge, and death, no longer wear the uniform, to attract attention. The industrial plant disposes of its by-products to advantage; our separations become liabilities on the pension roll. Within a period of nine years, we have "invalided" 39,508 of our selected subjects back to civil life.

Why Civil Health is Incomparable With Military Services.

Rear Admiral E. R. Stitt, Surgeon General U. S. Navy, stated in his 1926 report, page 2, to Secretary Wilbur:

"I instituted comparisons . . . analytical study of our personnel roster, in conjunction with those of other military services and of civilian institutions . . . it must be admitted that all comparisons are untrustworthy, because of differences in organization and in the nature of service, or in conditions under which service is rendered . . ."

The U. S. Naval Medical Bulletin for December, 1925, page 273, says, upon recommendation of the Surgeon General U. S. Navy and by direction of the Secretary of the Navy, a board of officers were convened to study the venereal disease problem of the Navy, and here is an excerpt from the board's findings:

"The board is loath to consider comparisons between the vital statistics of the Navy and other military and naval organizations, because it has no evidence that the statistics available have been collected under similar conditions and compiled by comparable statistical methods."

The U. S. Naval Medical Bulletin, May, 1925, incident to inoculation of antityphoid vaccine, which is required upon entering the U. S. Navy, has this to say:

"Commander C. G. Smith, Medical Corps, U. S. N., made the following remarks: '. . . recruits, who are young, unhardened boys, resistance to disease after inoculation is probably much lowered . . .' Commander Smith has had extensive experience in dealing with recruits . . . His judgment that inoculations may affect adversely the resistance of susceptible recruits and pave the way for successful invasion of the tissues by the causative microorganisms of diseases of the respiratory type is corroborated by observations made at the U. S Naval Training Station, Great Lakes . . ."

I wrote to the Medical Director General of the English Navy, on October 7, 1927, inquiring whether the English sailor was inoculated or not? I was informed on October 18, 1927, ". . . persons entering the British Navy . . . are not required to be inoculated against enteric fevers on entry . . ."

In spite of the official statements disclosed, Surgeon General Stitt sent a special message to the House Naval Committee, with the assurance of "excellent health in the Navy," making a comparison of the sickness in our Navy with that of the English Navy.

This special message, a reaction to my three years' propaganda over the radio and from the platform about ill health in the Navy, was done to prevent me from testifying before the Naval Committee concerning a subject which should be definitely settled, as both of us cannot be in the right. Admiral Stitt's assurance not only cancels his own distressing appeals for improvement, but it also cancels the pleas from the ablest officers in the medical corps, who have prayed for changes.

Admiral Stitt made a distressing plea to Secretary Wilbur for 136 more Navy doctors, which, he stated, had been needed since "May 16, 1923," and continues that this shortage of doctors "gives rise to grave anxiety." These "additional medical officers" have never been secured, due to a lack of legislation.

If this shortage gave "rise to grave anxiety" in 1926, when our personnel was 115,391, with 61,392 on the sick list, how could it be possible, two years later—1928—to boast of "excellent health" when our personnel was the same in 1928 as it was in 1926, and the number on the sick list had advanced to 68,674, and we had not obtained the "additional" doctors?

To such of my charges as:

"There is too much sickness in the Navy due to an antiquated system," and that "naval training stations are mere death traps," Surgeon General Stitt's defense was: "Truly a serious charge, and one that, if true, would be just cause for criticism. Fortunately, it is not true."

I have never made a statement which I could not prove. What would happen if a state health commissioner were to deliberately endeavor to thwart the efforts of a subordinate health officer, who, from the kindness of his heart, was trying to save the people millions of dollars, and human life? My undertaking, although within the Constitution, is no more obligatory upon me, as a retired officer, than any other citizen.

Why Excessive Navy Sickness.

Recalling that the span of human life has advanced thirty-seven years within four hundred years, due to preventive medicine, all things considered, the sickness in our Navy is excessive for a first line of defense. This does not rest at the door of individual Navy medical officers, for we have medical officers who are leaders—the fault exists with the system.

There is no annual physical examination given the enlisted man to discern disease before it advances, and too many complainants

XUM

are returned to military duty without being given the benefit of the doubt. One reason for this is that the medical officer is required to sit on court martials where expert opinions are not necessary; besides, he must execute many other non-professional duties, too lengthy for review.

I believe it is unwise to commission recent graduates of medicine who have had neither hospital nor private practice, with the view of earning retirement after thirty years' service. Aside from a lack of practical knowledge of disease recognition, youth cannot appreciate great responsibility. Assured incomes, military rank and lack of public health discussions are among the factors which tend to destroy initiative. It is a matter of official record that certain ranking naval medical officers do not want the Navy's health discussed publicly. I hold the proof. From 1926 to 1928, inclusive, 123 Navy doctors have resigned their commissions.

What is the Remedy?

While I have worked out in detail how we can rectify the conditions, they are too lengthy to relate in such a brief paper, but here is the case in a nutshell: Medical officers should not be commissioned until they have had adequate training in civil life, and should be required to devote their entire time to the field of preventive medicine, enlist men physically fit, and give them an annual physical examination. But in order to attract the best doctors to the Navy, the system must be changed. Remove the three principal reasons—inadequate pay, abuse of the junior officer at the hands of certain senior officers, and employ clerks and business men, in order that the doctor may prevent disease and cure unavoidable sickness. Instead of rendering the annual health report to the Secretary of the Navy, who is not a medical officer, place it in the hands of an untrammeled commission of doctors, who would discuss Navy health with Congress, and see that public health laws are enforced. This is an economic measure, in addition to the relief of unnecessary human suffering; besides, it would give us an adequate first line of defense. We do not need more doctors. What is urgently needed is an adjustment of the system, and, that this may be brought to a successful issue, every self-respecting citizen should not only write his Congressman, but President Hoover, who is much interested in both health and law enforcement.

3014 *West Grace Street.*

Correspondence

Look Out for Tularemia.

Richmond, Va.,
November 21, 1929.

To Virginia Doctors:

The hunting season is now open, consequently we would ask you to look out for cases of tularemia during the next three months. Below is given a brief description of this disease:

Source of Disease: In Virginia most of the cases are contracted from handling rabbits. It should be remembered, however, that the disease may be contracted from squirrels and also from ticks.

Course of Disease: The *incubation period* is short, usually twenty-four hours. The *onset* is sudden, manifested by chills, headache, body pains, prostration and fever. The febrile period lasts from two to three weeks.

Primary Lesion: In most cases the primary lesion is a papule which later breaks down, forming an ulcer. In other cases the disease begins with a severe conjunctivitis. A few cases show no primary lesion. The glands which drain the site of infection are painful, swollen and tender. Only the regional glands are involved.

Mortality: In a series of 654 cases studied by the U. S. Public Health Service there were twenty-four deaths.

Laboratory Diagnosis: At the end of the second week it is possible to make the diagnosis by the agglutination test. *When laboratory help is desired, kindly send 5 c.c. of blood taken at the end of the second week.*

Kindly report all suspicious cases and notify us if you want consultation.

Ennion G. Williams,
State Health Commissioner.

President's Message

As we all know, the Legislature of Virginia will meet again this winter. The Medical Society of Virginia, however, has no special legislation to request. At its last session the Legislature passed what seems to be an efficient Medical Practice Act, so the State Board of Medical Examiners has nothing to suggest this year. The State Department of Health, while desiring some increased appropriations and changes in the law to allow improvement in its operations, does not feel the necessity of getting our Medical Society to actively cooperate. At the same time, as is always the case, the Department desires the approval and cooperation of all members of the Medical Profession.

In times past it was found better to talk to the members of the Legislature in regard to medical problems before the session, and therefore I feel that it would be well for the different members of the Society to inform their friends in the State Senate and House of Delegates that the Medical Profession is only asking to be let alone this year and to give the present Medical Practice Act time really to be tried out. As has been the case for years, this Act merely requires that everyone, who wishes to practice the Healing Art on the citizens of Virginia, should have sufficient preliminary education and have given the recognized amount of time to professional education. This standard conforms to the wishes of the State Board of Education and to what is accepted as proper throughout the United States and the civilized world. We merely ask for the protection of the citizens and that everybody, including ourselves, should live up to a recognized standard of educational requirements.

While the State Department of Health is not asking the support of the Medical Society, I feel that the individual doctors should be tremendously interested in one proposal of the Health Commissioner. He is proposing to extend the State care of tuberculosis cases by paying a part of their board in properly run local sanatoria. He is proposing this instead of trying to enlarge the present State Sanatoria, which are now nearly as large as they should ever be. The main purpose of the Department of Health is to help the local communities take care of the advanced cases, who are now spreading infection among their children. These cases frequently have to be kept in an institution for a long time, and now indefinitely fill up beds in our present sanatoria which should be used for apparently curable cases. The plan would save the State money because it would be relieved of the cost of building extra pavilions at the sanatoria, and at the same time would cut in two the cost of caring for the patients by the municipalities.

This plan appeals to me, an old TB worker, as a great step in advance, for the old open cases of TB now prove the greatest source of infection and one which we have long been fighting to eliminate. I feel that all our medical men are interested in reducing the amount of tuberculosis in Virginia and can well say a good word for our Health Commissioner, and try to get for him the necessary authority and appropriation to put this measure into effect. The State Health Commissioner has expressed himself as earnestly desiring the cooperation of the Medical Profession. His work is recognized all over the United States and anything that we can do to aid him in improving his work, as in the plan mentioned, is really incumbent upon those medical men who are trying to put Virginia again in the first rank among the States.

CHARLES R. GRANDY, M. D.
President, Medical Society of Virginia.

Local Extension Work In Graduate Medical Education In Virginia

This section of the *Journal* will be devoted hereafter to news items regarding the local Extension Courses in Graduate Medical Education by the Medical Society of Virginia throughout the State.

This endeavor to provide continuous Medical Education to all of its members is based upon the Report of the Committee on Medical Education and Hospitals, which was approved and ordered to be put into effect by the House of Delegates, and which was published in the November issue of the MONTHLY.

The first meeting to formulate this work was held in the Society's offices on December 4th, and a full report of its action at that time will be published in the January issue in this section.

This educational program is, and will be for sometime, developmental, and necessarily slow in its application, but its need must be known and felt by every physician who desires to enlarge his own professional equipment and personal usefulness to his patients.

It is, thus, a double obligation, and an unusual opportunity for mutual service.

The papers printed below were read in the general meeting of The State Society at its last annual meeting, and were devoted to a discussion of this subject.

Some Suggestions for Diagnostic Clinics and Current Clinical Reviews in the Society's Post-Graduate Work.*

By J. ALLISON HODGES, M. D., Richmond, Va.

Graduate Medical Education is already being provided for in some states in a variety of ways.

The most popular methods have been first, the establishment in large medical centers of independently organized teaching units, where the training of the specialist is the basic idea in education; second, the use of city and community hospitals, where sporadic efforts have been made to keep the visiting physician abreast of advancing knowledge; and third, extension medical and clinical courses sponsored by state universities or intermittently by State Medical Societies, through their component county and group societies, where the medical practitioners are taught in their own communities to consider subjects in which they have a common interest, such, for example, as physical diagnosis, diseases of children, minor surgery, dry clinics, laboratory work, obstetrics, etc.

The whole matter is a rather recent idea, and is still in the evolutionary stages, and it is this latter phase of continuous medical teaching of general prcatitioners in their own localities that will be discussed.

Some of the methods in use have been employed already in this State, notably, the annual programs of the State Society, the Post-Graduate Courses of the Medical Colleges, and the Clinical meetings of Component and Group Societies. I would not criticize the annual programs of our Society, which contain many valuable scientific contributions, but the method is more or less rigid and static, and does not reach nor teach practically the mass of practitioners in our State. This method is especially valuable as an adjunct, however, and should be retained and, in some respects, made more concentratedly practical and clinical. The dissensions, likewise, are often of little value, whereas they should be the best methods of practically applying the subject matter of the papers.

The Post-Graduate Courses already instituted by the two Medical Colleges are also of importance and value, but to quote the Dean of the State University, "The clinics so far held by the Colleges do not reach any large proportion of the medical men of the State." Also, some of our County, District and Group Societies have conducted educational and clinical meetings with great success, but these have been infrequent.

It would appear then, that the Society might enlarge its usefulness and importance, and perform a practical duty for its members by becoming, as it were, the sponsor and connecting link between the Medical Colleges and the profession and the various component societies, whereby better cooperation and more abundant clinical material and teaching personnel could be obtained to the mutual advantage of all. But even this is not sufficient to carry extension courses of Clinical Medicine and Surgery to practitioners throughout our borders, and keep our members up-to-date.

To many of these, "The mountain must be brought to Mahomet," for, because of various

and numerous reasons, needless now to discuss, the busy practitioner feels, or believes he feels it impossible to leave his practice, even for the excellent pabulum offered, oftentimes free and without price. The importance of properly estimating the physician's duty, every physician's duty and responsibility, of understanding and appropriating to himself the changes and advances of this revolutionary epoch in medicine, and carrying them to his patients, cannot be overestimated, nor too strongly stressed. Because, also, of remoteness and consequent want of personal and professional contacts, there are many places in this State into which the light of modern medicine needs to be carried.

This is superlatively an age of efficiency, and a medical revolution, even now friendly, threatens to eliminate the private practitioner in much the same way as the industrial revolution has supplanted the handicraftsman, ununless he keeps pace with medical progress.

We regret that the leaders of the Medical profession, especially the Medical Colleges, have not displayed the foresight even of the legislators of today, for now these lawmakers have not only constructed, for instance, our highways, but they maintain them. Up to this hour, with the exception of two states, even the Medical Colleges have been in part recreant to their obligations to the profession, for they have sought medical students, only to graduate them, and after handing them their diplomas and wishing them godspeed, have quickly forgotten them! They may have produced good doctors, but they have failed to maintain their product.

As a result of all these conditions, the guidance and coordinating influence of the Medical Society of Virginia, the only fully organized Medical unit in the State, is imperatively needed to "carry the message to Garcia." The majority of the doctors in the State belong to this organization, and it should be their pleasure, as it is their privilege, to thus utilize this organized unit for the welfare of the physicians and the people at large. The interest and assistance of every physician must be aroused for, unless we meet our new and fuller obligations to our profession, even to a program of disease prevention, insurance companies, industrial concerns, and even the government may take over the control of the health of the people.

Only organizations such as this, through its county, district, and group societies, can meet successfully such a situation.

As a basis for initiating this scheme of continuous Graduate Medical Education by local Extension Courses, the following suggestions and recommendations, based upon rather wide research, and more than forty letters from physicians in all parts of the State, are offered. The whole scheme is still in its initial stages, and in certain localities may have to be changed in a measure to meet existing conditions, all of which will be considered later.

Its essential basic features, incorporated more fully in the Recommendations submitted to The House of Delegates,* are:

1. That the State Society be the Sponsor and connecting link between the different units;

2. That the component Societies, including district and group units, be the vitalizing factors;

3. That the Councilor in each Councilor District be the local Advisor and one of the local directors;

4. That the regional hospitals in each District be requested by the local component Societies to aid in the work, together with the Medical Colleges in the State;

5. That the Doctors' Educational and Clinical Bureau, when established, shall act as a supply and exchange station, as well as a professional clearing-house for correlation of courses and coordination generally of this extension work.

Discussion

Dr. J. W. Preston, Roanoke: The evolution of a practitioner of medicine is an interesting study. A generation ago, upon graduation, little more was expected of him than that he add to the scientific training given him by his Alma Mater, only such additional training as might be obtained by the exercise of his five senses and diagnostic intution born of experience. Today a bewildering array of facts and near facts are heaped before him and he is at a loss as to where to turn, what to accept as proven and what to discard as mere theory. He must now also utilize for himself an increasing number of practical laboratory tests for use in his everyday work and must at least have a speaking acquaintance with the constantly increasing array of technical procedures and practices that may be brought to bear upon his every day problems.

In addition to the tremendously broadened aspect of the professional side of medicine, the economic problems of the present are pressing as never before and the economizing of time and energy is all important. The doctor's family must be fed and his children must be clothed and educated. The business world is moving at a pace never before attained, and upon every hand is investigating and making use of methods of efficiency,, and labor-saving devices which are producing results as never

*These recommendations, published on page 545 of the November issue of the **Monthly**, were ordered unanimously to be put into effect by the House of Delegates.

before. Wide-awake medical institutions, hospitals, group clinics, and specialists have seen the handwriting on the wall and are keeping step with the modern movement.

The time has now come that the general practitioner, the man upon whom the families of all sections of the country depend for the protection and maintenance of health can no longer afford to stand aloof and keep out of the current. His education is his investment and the hope of maintaining its permanency and of future dividends are entirely dependent upon his keeping it a working capital.

It is these things that have given momentum to the post-graduate movements so eminently successful in certain other states and that have brought the Medical Society of Virginia face to face with the fact that, if the physicians of the state as a group are to keep pace, some successful plan must be worked out.

To one who takes even a casual view, two difficulties of organized effort are met at the outset. On the one hand is the hesitancy of the recent graduate to join in a post-graduate movement for the reason that having just completed a course on instruction, presumably embodying the latest, he fails to see the need of additional study, and with the self-confidence of youth does not see the difficulties ahead, forgetting that the new things in medicine are old almost before they are learned. On the other hand, the more mature practitioner almost before he realizes it becomes a fixture in his community and so tied by the character of his work and his obligations, he loses step to such extent that interest in advances in the science of medicine ceases its appeal.

If a post-graduate movement is to meet with success, means must be so devised as to offer to each of these classes of physicians worth while programs that meet their needs and win their interest and support With now practically all of the schools of the country A grade and running at full capacity, an increasing number of good men are being graduated each year, with equipment far superior to those of the past, so with keener competition knocking at the one door, and the mass movements of group medicine, corporation medicine, and, as some think, State medicine, at the other, it is time we look ahead.

I feel very sure that Dr. Hodges, in presenting the plan he has outlined for us, does not consider it the final word. Like most things in medicine it must of necessity, in a sense, be experimental. However, this may be, it does seem to embody what at this time would seem to be best for Virginia and its success or failure will depend upon the support it receives from the individual members of the Society.

Woman's Auxiliary, to the Medical Society of Va.

Report of the Annual Meeting of the Woman's Auxiliary to the Medical Society of Virginia.

The Woman's Auxiliary to the Medical Society of Virginia held its annual meeting in the ballroom of the Monticello Hotel in Charlottesville on Tuesday morning, October 22, 1929, at ten o'clock. There were about eighty ladies present. The meeting was opened with prayer by the Reverend W. R. Mason, and the usual routine reports of the previous meeting, the board meeting of the day before, the President's report, and the Treasurer's report were promptly disposed of.

Dr. Fletcher Woodward read a charming message of greeting from Dr. Alderman, who was prevented by press of business from coming in person. Dr. Charles R. Grandy, President-Elect of the Medical Society of Virginia made an interesting talk and urged the Auxiliary to use its influence to get a large appropriation for food for the inmates of the State asylums, the present amount being an allowance of twenty cents a day per capita; it is planned to ask the General Assembly to increase this amount to thirty cents.

The Auxiliary had the honor of an address from Dr. William Gerry Morgan, of Washington, President-Elect of the American Medical Association, and it was very nice to hear from him that our Woman's Auxiliary was the first organization to invite him to speak at a meeting since he became President-Elect. It is hoped that later in the year Dr. Morgan will visit both Richmond and Norfolk and those local auxiliaries will have a chance to hear him speak.

The President of the Pennsylvania Auxiliary, Mrs. Walter J. Freeman, was the guest of the Auxiliary at this meeting, and made a brilliant address which has already appeared in the Virginia Medical Monthly. The Auxiliary had reprints made of this address, and any one interested in having some can obtain them by writing to Mrs. F. W. Upshur, 818 W. Franklin St., Richmond.

Mrs. Southgate Leigh, Chairman of Health Education, reported that her committee had helped to obtain a full time health unit in one county and the promise of a hospital for advanced cases of T. B. in another county; she also said she understood that a county nurse had been secured for Pittsylvania.

Dr. Ennion Williams appeared before the meeting and asked for support of the measure providing county sanatoria for advanced cases of tuberculosis, and it is hoped every woman in this Auxiliary will use any influence she has with her county and State officials to help put this over.

It is planned to publish in the Monthly separate reports of the work done by the

Hygeia Committee and any local committees whose work might be suggestive to other local auxiliaries, and it is hoped the county members in particular will follow these reports closely. Mrs. J. W. Preston read the following report from the National Auxiliary:

Report of Woman's Auxiliary to the American Medical Association.

Dr. J. H. J. Upham, Board of Trustees, presented a report from the Woman's Auxiliary to the American Medical Association, together with the recommendation of the Executive Committee of the Board of Trustees:

To the Members of the House of Delegates:

Realizing the magnitude of the work carried on by the members of this august body, we are not availing ourselves of the privilege of appearing before you in person but are submitting to you a very brief report of the year's activities of the Woman's Auxiliary to the American Medical Association.

The greatest step forward in the development of the Auxiliary has been in securing an Advisory Council from the Board of Trustees of the American Medical Association. This gives the members an assurance of being properly guided in the policies and destinies of the Auxiliary. This year the national auxiliary has requested the appointment of advisory councils from the state medical societies or associations for the state auxiliaries, and again, advisory councils from the county medical societies for the county auxiliaries; thus no work of any kind, except purely social activities, is being undertaken until it first has the approval of the organized profession.

A budget has been established and provision made for the incorporation of the national auxiliary. A seal has been designed and adopted and an accurate record of membership in a modern card index system has been prepared so as to assist us in maintaining a compact and efficient body by keeping our records accurate and up-to-date.

Thirty-three states are already organized, most of them having a definitely arranged program of work. The active membership of the thirty-three totals 11,000. This has been made possible only by the existing cooperation between the medical associations and the auxiliaries.

The national auxiliary sends the kindest of greetings to the members of the House of Delegates, and wishes to express its sincerest appreciation for all of the help and the many courtesies which it receives at all times through the kindness of its individual members.

With every good wish and sincere personal regards, I remain, thankfully and sincerely yours,

MRS. ALLEN H. BUNCE, *President.*

July 12, 1929.

The Advisory Committee of the Board of Trustees recommends that this report be accepted and placed on file, and that the Secretary send the greetings of the House of Delegates to the Woman's Auxiliary, expressing its satisfaction with the actions of the organization and confidence in the policies outlined.

J. H. J. UPHAM, *Chairman.*

Dr. Upham moved that the report be adopted. The motion was seconded and carried.

As there was no election of officers this year, the meeting was able to conclude all business before adjourning to attend a luncheon at the Blue Ridge Club, and later in the afternoon most of the ladies went to the barbecue at the new Farmington Country Club. Norfolk will be the meeting place next year, and it is to be hoped that there will be a great deal of new work and several new auxiliaries to be reported.

MRS. F. W. UPSHUR, *President.*

The Truth About Medicine

In addition to the articles enumerated in our letter of September 28 the following have been accepted:

Cutter Laboratory
Diphtheria Toxoid—Cutter
Eli Lilly & Co.
Merthiolate
Winthrop Chemical Co., Inc.
Luminal Capsules, 1½ grains.

NEW AND NONOFFICIAL REMEDIES

Calcium Gluconate—Sandoz.—It contains calcium equivalent to not less than 12.40 or more than 12.80 per cent of calcium oxide. Calcium Gluconate—Sandoz is used to obtain the therapeutic effects of calcium. It is more palatable than calcium chloride and for hypodermic or intramuscular use is non-irritant. It is supplied in the form of a powder and in ampules containing 10 c.c. of a 10 per cent stablized supersaturated solution. Sandoz Chemical Works, Inc., New York.

Acne Bacillus Vaccine.—An acne bacillus vaccine (New and Nonofficial Remedies, 1929, p. 369) marketed in pacakages of one 5 c.c. vial, and in packages of one 20 c.c. vial. Hollister-Stier Laboratories, Spokane, Wash.

Pertussis Bacillus Vaccine.—A pertussis bacillus vaccine (New and Nonfficial Remedies, 1929, p.

371) composed of several strains of pertussis bacilli, marketed in packages of one 5 c.c. vial, and in packages of one 20 c.c. vial. Hollister-Stier Laboratories, Spokane, Wash.

Staphylococcus Vaccine (Aureus and Albus).—A staphylococcus vaccine (New and Nonofficial Remedies, 1929, p. 375) prepared from staphylococcus aureus and albus in equal proportions, and marketed in packages of one 5 c.c. vial, and in packages of one 20 c.c. ampule. Hollister-Stier Laboratories, Spokane, Wash.

Typhoid-Paratyphoid Vaccine (Prophylactic).—A typhoid vaccine (New and Nonofficial Remedies, 1929, p. 378) consisting of a suspension of killed typhoid, paratyphoid A, and paratyphoid B bacilli. It is marketed in packages of one 5 c.c. vial, and in packages of one 20 c.c. vial. Hollister-Stier Laboratories, Spokane, Wash. (Jour. A. M. A., October 5, 1929, p. 1065.)

Atoquinol—Ciba—The allyl ester of 2-phenylquinolin-4-carboxylic acid. The actions and uses of Atoquinol—Ciba are practically like those of cinchophen. It is supplied in the form of tablets 0.25 Gm. (4 grains.) Ciba Co., Inc., New York. (Jour. A. M. A., October 19, 1929, p. 1223.)

Chiniofon. — Sodium-iodoxyquinolinesulphonate. — A mixture prepared from approximately four parts of 7-iodo-8-hydroxyquinoline-5-sulphonic acid, containing not less than 26.5 per cent of combined iodine, and 1 part of sodium bicarbonate. Chiniofon, which is closely similar to preparations introduced under various proprietary names as wound antiseptics, has been found to be of use in the treatment of amebic dysentery.

Bacillus Acidophilus Culture—Hollister-Stier.—A pure culture of B. acidophilus which contains not less than 150 million viable organisms (B. acidophilus) per c.c. at the time of issue. For a discussion of the actions, uses and dosage of bacillus acidophilus preparations see Lactic Acid-Producing Organisms and Preparations, New and Nonofficial Remedies, 1929, p. 220. Hollister-Stier Laboratories, Spokane, Wash. (Jour. A. M. A., October 26, 1929, p. 1309.)

PROPAGANDA FOR REFORM

Committee on Foods.—The Council on Pharmacy and Chemistry has established a Committee on Non-medicinal Foods to pass on all food products for which health claims might be made. The Committee has prepared a series of rules under which it proposes to operate and these have been approved by the Council on Pharmacy and Chemistry. Any product which it is desired to have considered for "Accepted Foods" should be presented to the Committee on Foods, American Medical Association, 535 North Dearborn St., Chicago. The rules for the acceptance of foods are patterned on the principles of New and Nonofficial Remedies, with such modifications and relaxations as are made necessary by the different nature of the products concerned. Reports on products considered, having received approval of the Committee, may be published in the Journal of the American Medical Association under the section devoted to the Council on Pharmacy and Chemistry with a special heading, "Committee on Foods." At the end of each year, all reports shall be assembled in book form, with the reports of all products accepted preceding the reports of all products rejected. This book shall have the title "Accepted Foods." (Jour. A. M. A., October 12, 1929, p. 1144.)

Thallium Poisoning.—Three children died recently in London from poisoning by thallium acetate administered for ringworm of the scalp. This is an additional indication of the growing importance of thallium compounds as a dangerous poison. The first therapeutic use of thallium was to check sweating. Its action in causing a loosening and falling out of the hair was a "by-product" and most of our information about its other and more general poisonous effects in man has been obtained from its employment in epilation. Thallium is closely related chemically to mercury and lead. Although they appear earlier, the symptoms of chronic thallium poisoning are more like those produced by arsenic than by these other metals. (Jour. A. M. A., June 1, 1929, p. 1865.)

Book Announcements

Interns Handbook. A Guide to Rational Drug Therapy, Clinical Procedures and Diets. By Members of the Faculty of the College of Medicine, Syracuse University. Under the Direction of M. S. DOOLEY, A. B., M. D. Chairman Publication Committee. Philadelphia and London. J. B. Lippincott Company. 12mo of 254-xix pages. Cloth. Price, $3.00.

Minor Surgery. By FREDERICK B. CHRISTOPHER, M. D., Associate in Surgery, Northwestern University Medical School, Chicago. With a foreword by ALLEN B. KANAVEL, M. D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages, with 465 illustrations. Philadelphia and London. W. B. Saunders Company. 1929. Cloth. Price, $8.00 net.

The great strides made in preventive medicine have upset the work of the family doctor, while the rapid increase in automobile and other injuries has greatly increased the work of the surgeon. Hence the great majority of doctors are surgeons.

This "majority" will appreciate the new book by Dr. Christopher. While this is not a textbook, it will meet a hearty welcome by the great mass of busy doctors who have neither the time nor inclination to delve into the elaborate treatises.—H.

Practical Massage and Corrective Exercises With Applied Anatomy. By HARTVIG NISSEN, late President of Posse Normal School of Gymnastics: Superintendent of Hospital Clinics in Massage and Medical Gymnastics, etc. Fifth Edition, Revised and Enlarged by HARRY NISSEN, President, Posse-Nissen School of Physical Education, Boston, Mass. Philadelphia. F. A. Davis Company, 1929. Octavo of 271 pages. Illustrated with 72 original half-tone and line engravings. Cloth. Price, $2.50 net.

A Practical Treatise on Disorders of the Sexual Function in the Male and Female. By MAX HUHNER, M. D., Chief of Clinic, Gentourinary Department, Mount Sinai Hospital Dispensary, New York City; formerly, Attending Genitourinary Surgeon, Bellevue Hospital, Out-Patient Department and Assistant Gynecologist, Mount Sinai Hospital Dispensary, etc. Third Edition. Philadelphia. F. A. Davis Company. 1929. Octavo of 342-xv pages. Cloth. Price, $3.00 net.

The Rockefeller Foundation. Annual Report. 1928. The Rockefeller Foundation, 61 Broadway, New York. Octavo of 460 pages. Illustrated. Paper.

XUM

Virginia Medical Monthly

FOUNDED BY LANDON B. EDWARDS, M. D., APRIL, 1874.
OWNED BY THE MEDICAL SOCIETY OF VIRGINIA.
PUBLISHED BY THE PUBLISHING COMMITTEE.

A. G. BROWN, JR., M. D., Chairman and Editor, Richmond, Va.

W. B. MARTIN, M. D., Norfolk, Va.

J. H. NEFF, M. D., University, Va.

AGNES V. EDWARDS, Business Manager and Secretary-Treasurer.

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Journal, 104½ West Grace Street, Richmond, Va.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance.
Single Copies 20c.

VOL. 56 DECEMBER No. 9

Editorial

A Study of Flatulence.

In the work of a day, whether it be that of a practitioner of medicine or surgery, flatulence plays no inconsiderable part as one of the big difficulties to be overcome. Patients suffer from "gas." Gas interferes with the normal state of the mind and body. Gas is a problem in constipation, in abdominal pain, in operations, in pneumonia, in heart disease, in gastric and duodenal ulcer, in infections, in "dyspepsia," in a "thousand" ways, gas or "distention" or flatulence vexes, harasses, inconveniences and annoys patients who come to the physician and the surgeon. It is a real problem and one that presents practical and work-a-day difficulties. Yet it is one that has not received that degree of careful study so well warranted by its frequency and importance in sickness and operation. So it is fortunate that Kantor and Marks* have taken the time to bring forward a presentation of the subject under the title of "A Study of Intestinal Flatulence." In the histories of twenty-five hundred "dyspeptics," constipation, abdominal pain, flatulence, belching, headaches, vomiting, epigastric distress, heart burn, loss of weight and diarrhea appear as symptoms and in the foregoing order in the matter of frequency. It is known that flatulence is one of the common symptoms met with in practice. These authors divide the etiology of flatulence into two general heads: excessive gas intake from atmospheric air; the formation of gas from food decomposition. The abnormal bacterial flora production of gas and gas from the blood form the chief causes of its formation, while deficient expulsion, if due to atony or malformation of intestinal loops and diverticula, brings about distention and flatulence. Besides, deficient gas absorption, resulting from interference with the intestinal blood supply or interference with mucosal integrity or intestinal tone, makes for the production of intestinal distention and flatulence. These authors take up the several phases of the etiology and give their views and those of other workers. Enormous amounts of gas are produced in the processes of gastric-intestinal digestion. Carbon dioxide forms the greatest part of the gas produced. In the upper reaches of the intestines, where gastric and intestinal secretions mix in the processes of food digestion, one observer computes that six liters are produced daily, while in the lower small intestines no figures are available. Other gases are present in small amounts as H_2S, O_2, H_2, CH_4 (marsh gas which with hydrogen is inflammable). Gas absorption is best accomplished in the following order CO_2, H_2S, O_2, H_2, CH_2.

The summary in this paper may place the general subject succinctly before the reader:

1. Intestinal flatulence ranks third among the ten most common complaints of private patients suffering from digestive disorders.

2. In general, flatulence may be caused by excessive gas intake or produced by deficient gas expulsion or by deficient gas absorption.

3. Atmospheric air plays a definite but not necessarily a major rôle in the etiology of flatulence.

4. The chronic stomach bubble is a rare but striking cause of flatulence.

5. The diet may cause flatulence but this factor can be readily controlled in most cases.

6. An abnormal intestinal flora plays the leading rôle in the flatulence of intestinal infections.

7. Gas may be secreted from the blood under certain circumstances. At times, this may be an important cause of flatulence. Evidence is presented for the belief that the greater part of gas so secreted is nitrogen.

8. Flatulence from deficient gas expulsion arises in complete obstruction and in the redundant colon. Constipation is not a frequent cause of flatulence.

9. Deficient gas absorption is an important cause of flatulence. It may result from interference with mucosal blood supply, destruc-

*Annals of Internal Medicine, Vol. 3, No. 5, page 493.

XUM

tion of mucosal integrity or depression of muscular tone.

10. Interference with mucosal blood supply occurs in volvulus, portal obstruction, mesenteric vascular occlusion or sclerosis and general circulatory failure. The incidence of flatulence in hypertension was strikingly high (46%) in their cases.

11. Interference with mucosal integrity is best illustrated in colitis. Almost one-half of their colitis cases showed flatulence.

12. Interference with muscular tone (atony of the intestine) is probably a very important cause of flatulence.

13. In their opinion, a theory which would assume a sudden development of intestinal atony with rapid filling of the bowel by blood gases, chiefly nitrogen, would best account for many of the sudden baffling distentions encountered clinically.

14. Such a theory would explain flatulence of neurologic ileus, of toxemias associated with severe pneumonia, of sepsis and typhoid fever, of various hysterical states, as well as that encountered post-operatively.

Cancer of Gall-Bladder.

Practitioners at work in the field, interested in the larger problems of medicine as well as the details of daily practice, may well, for a moment, note the papers of Judd and Baumgartner* as they consider the rather rare clinical entity—cancer of the gall-bladder. Ordinarily, interest is more alive in those commoner conditions that one meets at the bedside and in the consulting offices and hospitals. Gall-bladder disease is common, but cancer of the gall-bladder is relatively rare. The frequency of the pathology of gall-bladder in patients applying for relief of symptoms makes the occasional possibility of cancer an exigency that may well be borne in mind. Besides, the larger study of this condition in the hands of workers whose experience is so great makes their presentation of value to all.

The record of removal of 14,978 gall-bladders at operation in 17 years (1910-1927) by one hospital group is unprecedented in America, in all probability, and naturally lends weight of the best authority in the pathological consideration of this subject by such hands. The rarity of the malady—cancer of the gall-bladder—is at once comprehended by the disclosure that, of this near fifteen thousand pathologic gall-bladders, only 89 were found to be malignant. The estimated incidence, therefore, of malignancy of this grave affection of the commonly diseased gall-bladder is about 0.5 per cent—a rare condition indeed. The types of malignancy were adenocarcinoma, squamous cell epithelioma, and sarcoma, but adenocarcinoma was most frequent in occurrence.

With a purpose to review the clinical side of this subject briefly, it may be observed that symptoms of malignancy of the gall-bladder were rather silent in some cases, but the more usual signs were characterized more or less by repeated attacks of colic stretching through a period of many years. The latter period of this clinical evolution of the disease, say the last three to six months, was characterized by constant pain and discomfort in the epigastrium or right upper quadrant of the abdomen. Besides, there were associated such stomach symptoms as nausea and vomiting. Loss of weight and weakness were also usual. In a small group, there were milder symptoms such as intolerance of food, gastric distress, belching, sour eructations, heartburn, with a minimal amount of pain over the gall-bladder area and withal little loss of weight or weakness. There was yet a small group of cases in which there was practically no symptom, until a sudden onset of pain occurs, associated with rapid and terminal symptoms of emaciation.

Jaundice was present but this depends upon pressure, encroachment and metastasis; thirteen of 56 of these patients showed jaundice. Tenderness was noted by pressure and a mass was palpable in 29 cases. Of 23 patients, achlorhydria was present in 4; in the remaining 19, hydrochloric acid was 32 and the average total acidity was 48. The blood picture was not characterized by anemia as found in cancer elsewhere in the body, for only 5 of the patients had hemoglobin less than 70 per cent and none less than 60 per cent. Metastasis appeared in the liver and adjacent lymph nodes and extra hepatic biliary duct system. Stones were found as an almost constant associate and were found in 94 per cent of the total number. This association must make one think of the possible relationship of gall-stone retention in the gall-bladder and ultimately, cancer of the gall-bladder.

The length of days following the operation

*Judd and Baumgartner, **Archives of Internal Medicine**, Vol. 44, No. 5, page 735.

for the removal of the gall-bladder is told graphically by the authors in the following paragraph:

"Twelve patients lived one month or less; seven lived two months; three lived four months; three lived five months; two lived six months; three lived seven months; one lived eight months; one lived nine months; one lived less than one year, but the exact date of death was not given; three lived one year; one lived thirteen months; one lived fourteen months; one lived somewhat less than three years, three lived four years. * * * One patient lived seven years and one lived eight years. Three patients were alive after fifteen months, eight years and fourteen years, respectively."

The Coronary Flow.

As one reads the large "literature" on the action of digitalis in the treatment of heart disease and of its pre-eminence as a heart remedy, one is impressed with the widespread use of this drug and its general acceptance as the chief reliance in cardiac decompensation and irregularities. The action of this plant appears to be largely in reducing the rate of action and to coordinate the operation of the upper with the lower heart but just how this is accomplished is yet a matter of wide difference of opinion. It is, therefore, interesting to turn from this side of heart therapy to consider what would appear to strike directly at the fundamentals of all heart decompensation and muscular misfunction, and that is the improvement of the flow of blood through the coronary system of the heart. For after all is said, it would seem that all restoration of physiologic action of the heart muscle, whether it be in the neuro-muscular bundle and its branches or in the auriculo-ventricular muscular structure itself, must depend in large measure upon the promotion of adequate blood supply. So it is interesting to follow the paper of Gilbert*, as he experimentally investigates the return flow in the coronary arteries in animals. The purine base diuretics were used in his experiments. The order of efficacy by vasodilator effect on the coronary arteries as shown by an increased return flow through the coronary sinus was shown to be as follows: Theobromine and its salts, theophylline ethylenediamine, theophylline sodium acetate and caffeine.

*Archives Internal Medicine, Vol. 44, No. 1, page 118.

The Questionnaire of the Committee on Revision of U. S. P., Tenth.

Our readers are urged to aid and support the efforts of the chairman of the committee of Revision of the United States Pharmacopoeia (Tenth) in securing data for the information of the next convention. The committee has sent out to a large number of practitioners and pharmacists a questionnaire. The inquiry sheet on which answers are to be made contains a list of drugs, chemicals, and preparations in the U. S. P., VIII and IX, but not admitted to the U. S. P., X. The physicians are requested to reply opposite each whether the item is used personally, often (O), rarely (R), or never (N.) If a large cooperation is secured by this inquiry, material aid will be given the committee in their efforts to inform the convention on these details of current use of these drugs.

It is hoped that practitioners receiving this letter from Dr. E. Fullerton Cooke will take time to make reply to the questionnaire therein contained.

A. G. B., JR.

Twenty Years' Progress in Mental Hygiene.

Sound mental health is the most valuable and desired asset an individual can possess. Consequently mental hygiene which deals with methods of prevention of mental disorders and defects and the promotion of mental health, is a subject that is now claiming the attention of the thoughtful more than ever before. This fact was evidenced at a dinner-meeting at the Hotel Biltmore in New York City, November 14th, under the auspices of the National Committee and the American Foundation for Mental Hygiene. This notable occasion was the twentieth anniversary of the National Committee for Mental Hygiene, when nearly seven hundred mental hygienists gathered to review the outstanding accomplishments of this phase of public health, since it was started by Clifford Beers, following the publication of his book entitled, "A Mind that Found Itself." At this meeting were psychiatrists, psychologists, physicians in charge of hospitals for the mentally ill, presidents and professors of leading universities and colleges, school teachers, commissioners of public welfare, directors of state departments of mental diseases, editors and writers, authors, psychiatric social workers and others.

Those who had been selected to be spokes-

XUM

men in conducting a symposium, so to speak, for the occasion were, Dr. William H. Welch, of Johns Hopkins University, distinguished in the field of public health, who presided with his usual ability; Dr. William A. White, President of the International Congress for Mental Hygiene, and probably the best known author of psychiatry in America, Dr. James R. Angell, President of Yale University, Dr. Frankwood E. Williams, Medical Director of the National Committee for Mental Hygiene, and Mr. Clifford W. Beers, Secretary of that organization. The speakers dealt with the importance of prevention of mental disease, and delinquency, the application of the principles and precepts of mental hygiene and the conservation of mental health, and methods of carrying on a constructive program for the future. Some of the outstanding thoughts of the speakers had to do with further informing the public so as to have a better general understanding of mental hygiene and its value to the individual and the community; mental hygiene outside of hospitals for the mentally ill; its place in colleges as well as in the public schools; in industries and in dealing with the criminal and the delinquent. Mr. Beers came in for due praise and recognition for the great service he has rendered in this latest movement in interest of the mentally sick, but it was not forgotten to recall the work done by Dr. Phillippe Pinel who, during the French Revolution, initiated the humane care of the insane and of that great American benefactor and friend of the insane, Dorothie Dix, who fifty years later caused many thousand to be liberated from dungeon cells in jails and almshouses and cared for in hospitals, many of which were built in response to the favorable public opinion she created throughout the country and abroad.

It will be of interest to the reading medical public to be reminded again that the National Committee for Mental Hygiene (and State Societies likewise) "works for the conservation of mental health; the reduction and prevention of mental and nervous disorders and defects; the improved care and treatment of those suffering from mental diseases; the special training and supervision of the feeble-minded; and the acquisition and dissemination of reliable information on these subjects and on mental factors involved in the problems of education, industry, delinquency, dependency, and others related to the broad field of human behavior. The committee seeks to accomplish its purposes by stimulating research into the nature and causes of nervous and mental diseases and defects; conducting surveys and studies of mental-hygiene problems; applying the knowledge gained from such studies through education and the promotion of beneficial legislation; encouraging psychiatric social work; establishing child-guidance and other mental-hygiene clinics; developing trained personnel; and cooperating with governmental and unofficial agencies whose work touches at any point the field of mental hygiene."

While it was the privilege of only four Virginians—representing the State Department of Public Welfare, the State Hospital system, the Bureau of Mental Hygiene and psychiatry, all of whom are members of the National Committee—to be present at the New York meeting, an opportunity will be afforded all of us in Virginia who are or may become interested in mental hygiene and mental disorders to attend the International Congress on Mental Hygiene to be held next May in Washington, D. C. At the same time and place the American Psychiatric Association and the Association for the Study of the Feeble-minded will hold their meetings. These gatherings so nearby will greatly promote the success of a mental hygiene program in Virginia.

W. F. D.

News Notes

May the old-time "Merry Christmas"
Filled with meaning bright and gay,
Be the song around your hearthstone,
Making Glad your Christmas Day.

Physicians of Eastern Shore Guests of the Accomack County Medical Society.

At a regular meeting of the Accomack Medical Society held Wednesday evening, November 20, at the Drummondtown Tavern, the local society was host to the members of Northampton County Medical Society. The meeting of the two County Societies was for the purpose of organizing a "Journal Club" of the physicians of the two counties. The object of the "Club" is in no way an infringement on

either society but simply a means of organizing the eligible physicians for a joint society for the purpose of the more frequent discussion of papers and the general fostering of acquaintance of the physicians of both counties. The meeting was a very enthusiastic one and the following tentative plans were unanimously adopted. The name of the new club is to be the "Physicians' Journal Club of the Eastern Shore of Virginia." Any physician eligible to either County Medical Society can become a member. Each county shall alternate the presidency and the secretary shall also be from the same county as the president. The vice-president shall be from the opposite county and the next year simply reversing. The place of meeting shall alternate in the two counties, for the present, to be held first at Nassawadox and next at Accomack C. H. The time shall be the second Tuesday in each month at 8 P. M. After effecting an organization, the following officers were elected for the ensuing year: Dr. John Hamilton, Nassawadox, President; Dr. R. R. Nevitte, Temperanceville, Vice-President; Dr. James Lynch, Cape Charles, Secretary.

After the organization of the Journal Club the Accomack County Medical Society proceeded to its regular business and, it being the annual election of officers, the following were elected for the ensuing year: President, Dr. W. W. Kerns, Bloxom; Vice-President, Dr. Joseph H. Hiden, Pungoteague; Secretary-Treasurer, Dr. John W. Robertson, Onancock, re-elected. It was decided to hold the annual banquet sometime in December and the following committee was appointed for local arrangements, namely, Drs. J. H. Ayres, J. L. DeCormis and J. F. Edmonds. It was also unanimosuly voted that the members of the Northampton County Medical Society be invited to participate in our annual banquet, or ladies' night.

Dr. James C. Doughty made an interesting report of his attendance at the recent meeting of the Medical Society of Virginia.

J. W. R.

The Mid-Tidewater Medical Society

Held its regular quarterly meeting at Gloucester Courthouse, October 29th, with Dr. Hawes Campbell, of Enfield, president, in the chair. Reports of the meeting at Charlottesville were given by Dr. E. L. W. Ferry, of Millers Tavern. Election of officers for the next year was as follows:

President, Dr. Horace Hoskins, Saluda; Vice-Presidents, Dr. M. H. Eames, Lanexa; Dr. A. W. Lewis, Ayletts; Dr. R. D. Bates, Newtown; Dr. E. L. W. Ferry, Millers Tavern; Dr. O. L. Powell, Yorktown; Dr. R. R. Hoskins, Matthews; and Dr. H. A. Tabb, Gloucester. The Secretary, Dr. M. H. Harris, West Point, and Treasurer, Dr. Jas. D. Clements, Ordinary, were re-elected.

Dr. Jas. R. Parker, Providence Forge, was admitted to membership.

Dr. H. A. Tabb presented a paper on Pyelitis, and general discussion led by Dr. Jas. D. Clements proved of interest to all.

The meeting adjourned to meet at West Point on the fourth Tuesday in January. Program to be announced later.

This society now embraces eight counties with an active membership of twenty-seven doctors residing within the counties.

The South Piedmont Medical Society

Held its regular semi-annual meeting in South Boston, November 26th, under the presidency of Dr. I. Keith Briggs, of that place. In the interval between the afternoon and evening sessions, supper was served the visitors at the Episcopal Parish House, in which building the meetings were held. There was a symposium on "Diseases of the Gall-Bladder" and a number of other interesting papers were presented by members and invited guests. Dr. George A. Stover, South Boston, is secretary-treasurer of the society.

The University of Virginia Medical Society.

At the meeting held on the evening of November 4th, the Society was addressed by Dr. H. H. Hazen, of Washington, D. C., on the subject of "Syphilis of the Cardiovascular System with Special Reference to Treatment."

Other subjects on the program were presentation of Clinical cases, the first, "Brain Cyst," presented by Dr. D. C. Wilson and the second, "A Case of Osteomyelitis with Septicemia and Spontaneous Pneumothorax," presented by Dr. Charles Savage. There was also presentation of autopsy material by Dr. Graham, which included a case of "Bacteria Endocarditis" and a case of "Congestive Heart Failure."

Virginia Social Hygiene Council.

On Wednesday, October 23, 1929, during the meeting of the State Medical Society, there was held a luncheon meeting of the Virginia

Social Hygiene Council at the Monticello Hotel, Charlottesville, Va. There were present seventy-five physicians. Dr. R. W. Garnett, President, presided. The principal speaker was Dr. Thomas Parran, Jr., who delivered an address on the "Practitioner's Part in the Prevention of Syphilis." The address was very instructive and entertaining and Dr. Parran made a deep impression on his audience.

Next, a Constitution and By-laws, which had been prepared by the officers of the Society, was presented and adopted.

The following resolution was presented by Dr. Paul Anderson, of Richmond. This was seconded and passed unanimously:

"PREAMBLE AND RESOLUTION."

"In view of the fact that many cases of syphilis and gonorrhea coming to the attention of the doctors of the State relinquish treatment long before they have ceased to be public health menaces to the community, and because it is the general opinion among doctors that this neglect is largely due to the expensiveness of the drugs necessary to modern treatment, it is hereby

Resolved, That the State Health Department be requested to keep on hand a supply of drugs for the treatment of syphil's and gonorrhea and distribute the same to the medical profession free upon request, under such restrictions as may be deemed necessary, or if it be not practicable to furnish the drugs free, distribute them to the profession at a minimum cost price.

Resolved, That the Council hereby offers its services to the State Board of Health Department for such help as it may render in attack upon the difficult public health problem of the control of Venereal Diseases in the State."

The Nominating Committee, composed of Dr. R. K. Flannagan, Dr. W. A. Brumfield and Dr. B. R. Hudnall, presented the following nominations for officers and directors for 1929-1930:

Dr. C. B. Ransone, Roanoke, President; Dr. Thomas Murrell, Richmond, Vice-President; and Dr. D. C. Smith, University, Secretary.

The following were nominated as directors: Dr. R. W. Garnett, Danville; Dr. W. A. Brumfield, Farmville; Dr. J. W. Preston, Roanoke; Dr. T. L. Driscoll, Richmond; Dr. W. L. Culbertson, Norton; Dr. Otis Marshall, Culpeper; Dr. A. M. Showalter, Christiansburg; Dr. Richard Fowlkes, Richmond; Dr. G. C. Tyler, Newport News; Dr. S. G. Gill, Norfolk.

These nominations were made unanimous.

The State Health Department has signified its willingness to comply with the resolutions adopted as far as possible. While it cannot furnish free remedies, the State Health Commissioner states that it may be able to place these remedies on the same basis as vaccines and antitoxins. To get the best terms from manufacturers, however, physicians interested are requested to advise the State Board of Health, Richmond, promptly, which remedies they would wish kept on hand and approximately the quantity they expect to order during the year.

Married.

Dr. Charles Martin Caravati, Richmond, and Miss Mary Virginia Dore, formerly of Staunton but more recently of Richmond, November 15th.

Dr. Horace Rowe Hicks, of the class of '28, Medical College of Virginia and last year an intern at St. Luke's Hospital, Richmond, and Miss Virginia Wilson Ferguson, Richmond, in October. They have moved to Switchback, W. Va., where Dr. Hicks is engaged in practice.

Dr. Alonzo Ray Dawson, Reedville, Va., of the class of '29, Medical College of Virginia, and Miss Dorothy Elise Walz, Richmond, November 19th. Dr. Dawson is at present serving an internship at St. Elizabeth's Hospital, Washington, D. C.

Dr. William Cary Holt, formerly of Hampton, Va., but now of Mexia, Texas, and Miss Elise Cosby Brown, Petersburg, November 6th. Dr. Holt is an alumnus of the University of Virginia, Department of Medicine, class of '26.

Dr. John McIntire Nokes, class of '27, University of Virginia Department of Medicine, and Miss Anna Macon Fawcus, University, Va., November the 14th. Dr. Nokes, formerly of Hollidaysburg, Pa., is now making his home in Nashville, Tenn.

Dr. Rudolph Cabell Thomason and Miss Izola Virginia Mulford, both of Richmond, November 27th. Dr. Thomason graduated from Medical College of Virginia last May and is interning at the Medical College of Virginia Hospitals this city.

Annual Achievement Award.

The Pictorial Review has announced that the winner of its annual Achievement Award of $5,000 for the year 1928 is Dr. Florence Rena Sabin, fellow of Johns Hopkins University and a member of the staff of the Rockefeller Institute for Medical Research. This award is made annually to the American woman who has made the most distinctive con-

tribution of the preceding year to the fields of American art, science or letters. Dr. Sabin has had much to do with the analysis of the tubercular germ and with the research work that is going forward toward a complete cure for this destroyer of the human tissues.

Dr. Simon Flexner, president of the Rockefeller Institute, declares her to be the greatest living woman scientist and one of the foremost scientists of all time.

The Sectional Meeting of the American College of Surgeons

For the States of Virginia, West Virginia, Maryland and the District of Columbia is to be held at Richmond, Va., January the 9th and 10, 1930, with headquarters at Hotel Jefferson. The local committee in charge of this meeting is composed of Dr. Carrington Williams, chairman, Drs. Robert C. Bryan, Frank S. Johns, G. Paul LaRoque, Karl S. Blackwell, Greer Baughman, Chas. R. Robins, A. C. Sinton, and W. L. Peple.

The program includes operative clinics in the Richmond hospitals in general surgery, eye, ear, nose and throat work, and the other surgical specialties. There are also clinical addresses, a scientific meeting, medical motion pictures, and a Hospital Standardization program consisting of a round table conference, discussions, and visits to local hospitals. A Community Health Meeting will be held on the evening of January the 9th. Fellows of this section of the College will be assisted in the program by Dr. George W. Crile, of Cleveland, Dr. Robert B. Greenough, of Boston, and Dr. Franklin H. Martin, of Chicago. Dr. Malcolm T. MacEachern, of Chicago, will conduct the hospital conference.

Dr. Clarence Porter Jones, Newport News, the Virginia chairman and ex-officio the presiding officer, invites all surgeons, surgical nurses, hospital superintendents, trustees and directors to attend these meetings.

A Health Examination Campaign

Has been undertaken by the Five County Medical Societies of Greater New York. This is intended to show that the periodic health examination is the most important single factor in improving health through preventive measures, and it is hoped that individuals, community organizations, and physicians themselves will fully realize the value of these examinations. Public and parochial schools, and many civic organizations are joining in the movement. Over a million and a half leaflets prepared by the Societies have been distributed by the Board of Education to the school children of the city, stressing the improvement of public health through preventive measures and urging parents to have periodic health examinations for themselves and their children.

The Southern Section of the American Laryngological, Rhinological and Otological Society

Will hold its annual meeting in Roanoke, Va., Saturday, January the 18th, at Hotel Patrick Henry. Dr. Elbyrne G. Gill, Roanoke, is chairman of this section which will convene promptly at 9 A. M. Papers will be read by Drs. C. M. Miller, Richmond, Va.; J. A. Stucky, Lexington, Ky.; C. D. Blassingame, Memphis, Tenn.; J. J. Shea, Memphis; T. W. Moore, Huntington, W. Va.; Fielding C. Lewis, Philadelphia; E. E. Watson and Churchill Robertson, Salem, Va.; Fletcher D. Woodward, Charlottesville, Va.; J. B. Greene, Asheville, N. C.; M. S. Equen, Atlanta, Ga.; J. W. Jervey, Greenville, S. C.; M. R. Mobley, Florence, S. C.; and by the president of the organization, Dr. Ross H. Skillern, Philadelphia. Following the morning session, the members and visitors will be guests for luncheon at the home of the chairman, Dr. E. G. Gill.

Dr. John S. Horsley, Jr.,

Richmond, Va., announces the opening of offices at 210 Medical Arts Building, this city, his practice to be limited to surgery. He will also continue his connection with St. Elizabeth's Hospital as attending surgeon.

Dr. J. A. B. Lowry

Has returned to his home at Crewe, Va., after doing post-graduate work in New York City for several months. He will continue his work in general practice.

The Cherry Slip

Placed in this issue of the MONTHLY explains itself. It will be a matter of convenience to us both if you will answer its silent appeal. This should be "Nuf sed."

Dr. Waverly R. Payne,

Having just completed a year of service as resident obstetrician and gynecologist at Jersey City Hospital, has returned to Newport News, Va., and opened offices in the Medical Arts Building. He is a member of the Surgical Staff of Riverside Hospital and is limiting his practice to obstetrics and gynecology.

XUM

Dr. D. Hunter Marrow,

Of Union Level, Va., recently left for Florida to spend the winter at Daytona Beach, as is his custom.

Dr. Joseph Caplan,

Of the class of '25, University of Virginia, Department of Medicine, has located for practice at 2328 Eutaw Place, Baltimore, Md. He recently returned from studying abroad and will limit his practice to diseases of the ear, nose and throat.

The West Virginia Crippled Children's Council

Is entering upon a survey to locate all crippled children in the State and the resources available for their care. In this work it will be aided by the West Virginia Crippled Children's Society, a private organization which is planning to organize in every county. The survey has been made possible by a State appropriation in 1929 for the work of the council, which though organized by an act of 1925 was without funds until this year. Mrs. Jean T. Dillon, R. N., formerly director of the division of child hygiene of the State department of health, has been appointed executive secretary. The first work to be undertaken will be to bring the children under professional care at convenient centers.

The Sale of Christmas Seals Is On.

In the United States, there are 1,400 affiliated tuberculosis associations operating under the ageis of the double barred cross, the insignia of the world wide tuberculosis movement. There are many local associations in our State. All but 5 per cent of the money raised from the sale of the Christmas seals is retained for use within the State in which collected and a large part of the remaining 95 per cent for use in the special county within which it is raised. So, by the buying of seals, we are helping our neighbors and in many instances those even nearer.

The National Tuberculosis Association states that within the last ten or twelve years the Christmas seal funds have helped to cut the death rate from tuberculosis in half, but, in spite of this, the disease is by no means conquered, for tuberculosis in some form still continues to kill more people between the ages of eighteen and forty than any other disease.

Every seal bought helps win this fight.

Associated With Dr. Wheeldon.

Miss Matilda Robertson, from the office of Drs. Allison, Ober and Brewster, of Boston, has recently become associated with the office force of Dr. Thomas Wheeldon, 318 West Franklin Street, Richmond, Va., to do special work in physiotherapy.

Virginia Doctors Attend Celebration.

Drs. James K. Hall and William F. Drewry, Richmond, anl Dr. Hugh C. Henry, Petersburg, were the only Virginia doctors who attended the twentieth anniversary of the inauguration of the mental hygiene movement and the founding of the National Committee for Mental Hygiene, which was celebrated November 14th, at the Biltmore Hotel, New York City, with a dinner and a number of addresses.

Southern Orthopedic Hospital.

The property in Richmond, Va., known for sometime as Terrace Springs Sanitarium, has been converetd into an orthopedic hospital, and will be open to the physicians of Richmond as in the past. The hospital will have thirty-five beds and the latest equipment for orthopedic work. Dr. Thomas Wheeldon will be chief of staff and do the orthopedic work.

The physiotherapy department, including the hydrotherapy work, will be continued, a complete new operating suite will be installed for surgical work, a complete new X-ray unit will be added, a children's ward especially for orthopedic cases will be introduced, and the nursing staff will include a specially trained superintendent and operating room supervisor.

Dr. W. K. Dix,

An alumnus of the Medical College of Virginia, class of '28, has opened his offices for the general practice of medicine at 210 Medical Arts Building, Richmond, Va.

Dr. Thomas N. Spessard,

Recently of Salem, Va., has gone to New York City, where he expects to spend the next two years taking post-graduate work in neurology and nuerosurgery at the Neurological Institute, of New York. Dr. Spessard graduated from the Medical College of Virginia in 1927.

The Petersburg (Va.) Medical Faculty

Held its annual meeting the latter part of November, under the presidency of Dr. E. W. Young. At the banquet, which is the feature of these meetings, talks were made by Drs. R. A. Martin and James H. Hargrave, Jr. The following were elected officers for the ensuing year: President, Dr. Herbert C. Jones; vice-

XUM

president, Dr. W. Preston Hoy; secretary-treasurer, Dr. John Harwood, re-elected.

New Building for Martha Jefferson Hospital.

The new building for the Martha Jefferson Hospital, Charlottesville, Va., was opened to the public for inspection on Thanksgiving Day, and there was a "Home-coming Day" on the Friday following for nurses who have graduated from this institution in the past twenty-five years of its existence. This new building was made possible by a very substantial gift from a resident of Charlottesville. It is of brick, consists of three stories and a basement, and is fireproof throughout, being fitted with all modern improvements and conveniences.

Dr. Stuart McGuire,

Richmond, organizer of McGuire Unit, officially known as Base Hospital No. 45 in the World War, was master of ceremonies at the dedication exercises of the new Richmond Stadium on Armistice Day.

India Raises the Age of Marriage.

The minimum age for marriage of girls in India has been raised to 14 years and the age of consent to 16 through the passage of a law by a very large majority of the Indian Legislative Assembly, which also raised the legal age of mariage for boys to 18 by the same act. The bill was introduced by a native member and had strong support from the Government. Penalties are imposed for celebrating any marriage below the legal ages, and the law is applicable to members of all religious communions.

Dr. J. E. K. Flannagan,

Of the class of 1925, University of Virginia, Department of Medicine, and for several years a member of the staff of Catawba Sanatorium, is now associated with Dr. Everett E. Watson at Mt. Regis Sanatorium, Salem, Va. Dr. Flannagan spent several months during the summer at Trudeau Sanatorium, Saranac Lake, N. Y., in study and clinical research, and came to Mt. Regis, December 1st.

Examination for Entrance into the Regular Corps of the U. S. Public Health Service.

Examination of candidates for commission as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service will be held at the following-named places on January 27, 1930: Washington, D. C.; Chicago, Ill.; New Orleans, La.; San Francisco, Cal.

Candidates must be twenty-three years and not over thirty-two years of age. They must have been graduated in medicine at a reputable medical college, and have had one year's hospital experience or two years' professional practice. They must satisfactorily pass oral, written, and clinical tests before a board of medical officers, and undergo a thorough physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Request for information or permission to take this examination should be addressed to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

Trachoma Found in Wythe County.

Upon request of the local health board of Wythe County, Va., Dr. H. G. Grant, of the State Board of Health, with a representative from the U. S. Public Health Service, recently examined a group of people in a certain community of that county and found eighteen definite cases of trachoma. This has raised a question as to whether there may be other cases of trachoma scattered throughout Wythe and the adjoining counties.

If there is reason to suspect trachoma cases in any community, the State Board of Health should be advised, that proper steps may be taken to rid Virginia of this communicable disease.

The Ex-Interns' Association of St. Elizabeth's Hospital,

Held its sixth annual meeting at the hospital in Richmond, Va., October 1st, with Dr. A. A. Houser, Richmond, president, in the chair. There were sixteen members present and, altogether, this was one of the best meetings of the Association. In addition to the address by the president, papers were prepared for this meeting by Drs. W. G. Rainey, Princeton, W. Va.; Wright Clarkson, Petersburg, Va.; Paul C. Colonna, New York; M. L. Breitstein, Baltimore; and John S. Horsley, Jr., Richmond. The morning session of clinics and operations was follows by luncheon at the Commonwealth Club. The papers were presented at the afternoon session. These were followed by the business session, at which time the following officers were elected for the coming year: President, Dr. Paul C. Colonna, New York; Vice-President, Dr. Harry J. Warthen, Baltimore; Secretary-Treasurer, Dr. John S. Horsley, Jr., Richmond, re-elected. In the evening, all the members were entertained at supper by Dr. and Mrs. J. Shelton Horsley, at their home "Greystone."

XUM

Dr. James Floyd Terrell,

Of the class of '18, Medical College of Virginia, announces the opening of his office in the Croyden Apartment Building, 2700 Idlewood Avenue, Richmond. His work will be limited to general practice. Dr. Terrell has been for some years in the U. S. Navy, and was recently connected with the Surgeon-General's Office, in Washington, D. C.

The American Pharmaceutical Manufacturer's Association.

"Keep well—Consult your Family Physician" is the slogan proposed as a part of the advertising campaign to be fostered by this Association in the coming year. Definite action on the nature of this campaign as well as action on the future research program of the Association will be taken at the semi-annual meeting to be held in the Hotel Washington, Washington, D. C., December 16 and 17, 1929.

The first day's meeting will be given over largely to problems of executive nature and a general discussion of means and ways of obtaining greater efficiency and economy in distribution.

The second day will be devoted primarily to meeting members of the various government bureaus and departments with which the members of the Association come in contact in the course of their daily activities.

A visit to the Food, Drug and Insecticide Administration, Department of Agriculture and to the Prohibition and Narcotic Divisions of the Treasury Department will occupy the forenoon of December 17th.

At the luncheon on this day, Senator George H. Moses, of New Hampshire, President pro tempore of the United States Senate, will be the guest of honor and will address the members. The afternoon will be devoted to addresses by other Government officials and reading and discussion of the reports of the Research Board and the Contact Committee of the Association.

Among the important topics to be discussed in the executive sessions are Publicity, the Proposed Census of dispensing physicians, Institutional Advertising and the "Consult your Family Physician" campaign.

This year's president is Dr. H. Sheridan Baketel, Jersey City, N. J.

Dr. Benj. E. Hunt,

For sometime of Holden, W. Va., is in Philadelphia, where he is taking a post-graduate course in gynecology and obstetrics at the Graduate School of Medicine, University of Pennsylvania. Dr. Holden is a graduate of the Medical College of Virginia in the class of '24.

Dr. C. W. Thomas,

Recently of Floyd, Va., has located in Martinsville, Va.

Disabilities From Infantile Paralysis Should Be Corrected Promptly.

Now that the infantile paralysis outbreak in Virginia is at a close, the State Board of Health has sent letters to all Virginia doctors, offering to cooperate with them in securing to every victim the benefits of the advances and discoveries of modern science. The attending physician can have his patients examined and proper care instituted for those able to pay, while there are orthopedists and institutions where patients may secure aid in accordance with their financial condition, for those unable to pay or able to pay only in part.

Some of the 280 victims of the infantile paralysis outbreak in Virginia, this year, have recovered entirely. If you wish assistance for any of your patients, write the State Health Commissioner, Richmond, Va., giving patient's name and address and present condition.

U. S. Civil Service Examinations.

The United States Civil Service Commission, Washington, D. C., announces open competitive examinations for Senior Medical Officer (internal medicine), and Junior Medical Officer (interne). Applications must be on file with the Secretary of the Fourth U. S. Civil Service District, Washington, D. C., not later than December 26, 1929.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Maternal and Infant Mortality, Great Britain.

The maternal death rate in England and Wales in 1928 was 44.2 per 10,000 live births, the highest rate recorded since 1911. The infant mortality rate during the same year was 65 per 1,000 live births—the lowest on record.

For Sale or Lease.

Fireproof, brick hospital, modern in every detail, well equipped. Located in progressive community. Suitable for sanatorium or hospital of some definite type; another general hospital in town. Medical library and operat-

ing room fixtures, Kny-Scheerer sterilizers, etc., can be bought separately. Write Mr. James H. Price, Attorney for estate, Times Dispatch Building, Richmond, Va. (*Adv.*)

Obituary Record

Dr. Harry Taylor Marshall,

Walter Reed Professor of Pathology and Bacteriology at The University of Virginia, died on November 8, 1929, in the American Hospital in Paris, France, of pneumonia following an operation. He was buried in Brussels.

At the time of his death Dr. Marshall was in Europe on a year's leave of absence from the University in an effort to regain, in a measure, his health, which intense application to his work had seriously impaired. His wife, neé Nancy Lea, of Philadelphia and Albemarle County, Virginia, and four of his five children were with him in Europe.

Dr. Marshall was born in Baltimore, Md., on May 19, 1875, and was the son of Colonel Chas. Marshall, Chief of Staff and biographer of General Robt. E. Lee; and Sarah Rebecca (Snowden) Marshall. He held the degrees of bachelor of arts (1894) and of doctor of medicine (1898) of Johns Hopkins University. During the summers of his collegiate period he was attached to the U. S. Coast and Geodetic Survey as recorder.

He came to the University of Virginia in 1908 from the Professorship of Pathology at the Medical School of the Philippines in Manila, where he also held the position of Secretary and of Registrar. Few teachers have ever been better equipped by temperament, training and scientific spirit for the teaching of the art of medicine, than was Dr. Marshall. He was, however, essentially a research man and it was the disappointment of his life that the driving duties of an inadequately staffed professorship did not admit of his following the many lines of research his active intelligence had marked for special attention. His travelling fellowship with the Rockefeller Institute for Medical Research during 1901 and 1902 threw him into close relationship with some of the greatest scientists of America and Europe, among the latter Dr. Paul Ehrlich in whose laboratory he was privileged to work for months. His research activities at Johns Hopkins University and as special pathologist with the U. S. Bureau of Plant industry in the poison plant investigation (so-called loco-weed investigation) marked him as an unusually careful investigator.

The search for the truth of things and the advancement of science loomed so large with him that the personal equation sank into insignificance and so his accomplishments in the field of research have been, in great degree, overshadowed; not so, however, in the realm of teaching as the thousands he has taught will testify. Thoroughness, unwearied care in the preparation of the materials for teaching, insistence that the student know the subject, however much time it might take to enlighten, characterized his work always and drew in unwonted degree on his vitality. He taught pathology by the autopsy and autopsy material, and was never too busy or too tired to officiate personally in the detailed search for the primary cause of death.

Notwithstanding the demands upon his time as a teacher, Dr. Marshall yet found time to be a citizen in the true sense. He interested himself in the development of a local public health nurse service long before such services became generally popular. Later, he took active part in the organization of an adequate county, city and University health department and in the establishment of Blue Ridge Tuberculosis Sanatorium, which last, as local member of the State Board of Health, he closely supervised in its beginnings.

As technical member of the Virginia Tuberculosis Commission of 1916-18, whose report resulted in the mill-tax fund for tuberculosis control and the more adequate financing of tuberculosis work in Virginia, he gave unstintedly of his time and thought. In this matter alone he deserves high place on the roll of public benefactors.

Dr. Marshall was a Phi Beta Kappa and a member and actively interested in the work of a number of societies, including the American Association of Pathologists and Bacteriologists, of which he was also president in 1922, American Association for the Advancement of Science, his State ond local medical societies and the American Medical Association. He was also for seven years an associate editor of the VIRGINIA MEDICAL MONTHLY.

Whatever post Dr. Marshall occupied, whether as member of a Board, a society or

XUM

a college faculty, he took an active part and when careful thought and trained intelligence was needed he was always to the fore. He would not affiliate where he could not be useful and on appropriate occasion he never failed to express his judgment unmistakably in clear balanced and vigorous terms. His scientific published papers, all too rare, are couched in carefully concise English and exhibit always a profound knowledge of the subject treated. They are invariably fruitful of suggestions for further study.

Dr. Marshall's influence upon the development of the Medical School at the University of Virginia during the past twenty years can only be adequately told by the eloquent President of that institution, who in very large measure leaned upon his enlightened ability and judgment. It is too long a story for record here. His colleagues know and appreciate his service to the full.

He was a model father and husband, an active consistent though liberal churchman, a charming host and genial companion, thoroughly appreciative of all the cultural aspects of life, he possessed too a keen and unfailing sense of humor without a tinge of malice.

In other words he was a broad-gauge Christian gentleman and scholar whom to meet was a privilege and to be accepted in the inner circle of his friendship was a real honor.

R. K F.

Dr. Simon P. Conduff,

Draper, Va., died at the Pulaski Hospital, November 24th, after an illness of two weeks. He was a native of Floyd County and fifty-six years of age. Dr. Conduff graduated from the Baltimore Medical College in 1898 and joined the Medical Society of Virginia several years later. He had been practicing in Draper and vicinity for nearly thirty years. At the time of his death, he was mayor of Draper and president of the Bank of Draper. His wife died several years ago, but he is survived by four children and a large family connection.

Dr. George Price McCoy,

Hopewell, Va., well known eye, ear and throat specialist, died November the 5th, at Monterey, Va., to which place he had gone with his family to attend the funeral of Mrs. McCoy's mother. His death was due to blood poisoning. Dr. McCoy was forty-eight years of age and had graduated in medicine at the former University College of Medicine in Richmond, in 1905. He was a World War veteran, having been in service overseas. He has been a member of the Medical Society of Virginia for several years. His wife and two young children survive him.

Dr. Victor Clarence Vaughan,

Eminent scientist and author and for thirty years dean of the Medical Department of the University of Michigan, died suddenly at his home just outside of Richmond, Va., November the 21st. He was seventy-eight years of age and a graduate in medicine from the University of Michigan, in 1878. He located in Richmond about two years ago, upon retiring from active work. He was a prominent figure in the medical history of this country and had been active in many organizations. He was also an ex-president of the American Medical Association. Dr. Vaughan served in both the Spanish-American and World Wars. He is survived by his widow and four sons, three of whom are physicians—one, Dr. Warren T. Vaughan, of this city.

Dr. William A. Thornhill,

Charleston, W. Va., an alumnus of the University of Virginia, Department of Medicine, in the class of 1901, died November 14th, of heart disease. He was forty-eight years of age and a native of Appomattox County, Va., but had practiced in Charleston for sometime, specializing in roentgenology.

Dr. Oscar Woods Holloway,

Of Durham, N. C., died October the 2nd, of heart disease, at the age of fifty-four years. Dr. Holloway was graduated from the Medical College of Virginia, Richmond, in 1901. At the time of his death he was a member of the staff of Watts' Hospital, in Durham, and was connected with a number of medical organizations.

Dr. William Jordan Thigpen,

Tarboro, N. C., died on September 20th. He was fifty-four years of age and a graduate of Jefferson Medical College, Philadelphia, in 1900. He was prominent in his section and a member of the staff of the Edgecombe General

Dr. Joseph Low,

Welcome, Va., died November the 2nd, death being due to heart disease. He was sixty-two years of age and had graduated in medicine from the Chicago Homeopathic Medical College in 1888. He was formerly professor of the theory and practice of medicine at the Hahnemann Medical College and Hospital.